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BALTIMORE, NOVEMBER 21, 1907.

Mr. W. G. Potter, C. E., of Greens-
boro, N. C., writes to the MANUFACTUR-
ERS' RECORD as follows:

Allow me to shake hands with you, figuratively, on the tone of your paper at the present time. A general spirit of confidence such as you show would do more than any other one thing to help us through this crisis.

"PLAY BALL."

Keep cool; don't get excited; don't imagine that present monetary conditions are more than short-lived; don't talk panic; don't think panic; create an atmosphere of faith and optimism wherever you go. Some people lost confidence and that injured credit, and people who ought to be ashamed of such action drew currency out of banks and locked it up. That can't last. Idle money soon burns a hole in your pocket and gets out. Men want their money to work 24 hours a day, Sundays and holidays included. They want interest or income from it. Don't imagine that idle money is going to stay idle. It will soon be coming back into the banks, just as soon as its owners come to their senses and realize that they have been more hysterical than a woman who yells because a poor little mouse happens in her room. The whole scare would be laughable if it were not so serious in its consequences. It's like a nervous man who wakes up suddenly in the night and trembles with fear until he stops to realize that a banging shutter or snow sliding off the roof made the great noise. Then his nerves

soon quiet down and he goes peacefully to sleep. The country's nerves were on edge, and everybody was under a little tension because some of our public men, believing that there was a thief in a big crowd, concluded that they would try to kill him by shelling the whole crowd with grape and canister and take the chance of hitting the thief. Some were hurt and a few killed, while dodging cannon balls of this kind had kept the crowd, which included the great American public, so busy that naturally any sudden noise even of a banging shutter started them to running.

In olden cowboy days, when a vast herd of cattle on the plains became panic stricken in a great thunder-storm at night or from any other cause, thousands of frightened, maddened animals would rush headlong at a terrific pace. Such a stampede must be checked, or hundreds would be trampled to death or be lost, and so the cowboys, riding as none but cowboys can, and risking life in the danger of being trampled to death, would endeavor to turn the leaders and gradually swing the mighty host into a circle. Round and round the cattle would go until finally, tired out by this "swinging around the circle," they quieted down and went peacefully to sleep, apparently wondering why in the world they had been so scared. The American public got scared, started on a wild, mad stampede, and but for the splendid "rounding-up" work by cowboys Morgan, Rockefeller, Stillman and others the crowd would have rushed headlong to destruction.

Now that the stampede is over, now that the injury of shellings a whole crowd in order to hit one possible thief has been realized, the American people can resume business operations, get over their scare and do a little thinking. There are just as many people in the United States as there were a month ago, and possibly a few babies more, just as many miles of railroad, just as many bales of cotton and bushels of grain except what Europe had taken and paid for in gold, just as many people to feed and clothe and house. Some of them may eat a little less or wear their old clothes a little longer, but this sad condition will be sooner be righted by a return of sanity. Stop now for a minute and think. Do you see any fewer people in the street cars or on the steam cars, do you see any fewer people moving up and down the streets, do you note any sudden disappearance of any large number of the 85,000,000 people whose wants and activities will keep us busy even if somewhat less than during the strenuous rush of late years, which has been overtaxing night and day nearly every productive enterprise in America. These people don't stand still. They are trading one with the other; they are producing something and consuming something; they are making necessary constant enlargements of all our transportation facil-

ties; they are buying and selling; they are sowing and reaping; they are mining and manufacturing, and any idea that the business world is coming to an end and that we must sit around with our thumbs in our mouths and wonder how soon the undertaker will be ready for us is unworthy of men. Dumb beasts in a wild stampede may be excused for their panicky condition when affrighted, but surely men—men who have any backbone and gray matter—are not going to follow their example. On the contrary, they are going to settle down to business, and if grazing is not quite as good on the new prairie as it was on the old, they are going to hustle so hard for their share that they will keep their sides bulging with fatness even if their timid or lazy neighbors refuse to eat. In other words, quit your fears; go to work; if you have any friends who were foolish enough to lose confidence and draw money out of bank, ridicule their folly out of them; take the demagogue or agitator against legitimate business nearest to you by the back of the neck and duck him in a mill pond until he solemnly swears to be as active in building up business interests as he has been in tearing them down, or in the absence of such promise leave him there, and then go ahead and in the great drama of business life act well your part; there all the honor lies. "Play ball."

GOOD OMEN FOR SOUTHERN TECHNICAL TRAINING.

Not the least interesting feature of the election of George Gordon Crawford to the presidency of the Tennessee Coal, Iron & Railroad Co., under its reorganization by the United States Steel Corporation, is the encouragement it should give to Southerners who have for many years been urging adequate support of Southern institutions for technical training. Mr. Crawford, who is not yet 40 years old, was born in Atlanta, and was one of the first two men to graduate from the Georgia School of Technology in 1890. To the training he received there he added a special course in Germany, and since then has been building and broadening effectively upon the foundations laid at the Atlanta institution. Some of his earliest practical work was done in the Birmingham district in the employ of the Sloss Company, where his first experience as a draftsman gave him a chance to show the stuff that is in him. But at the time the opportunities in the South for him, as has been the case with so many young men, were not equal to his aim, and presently he was working under the general superintendent of the Edgar Thomson Steel Works in the Pittsburgh district. There he attracted the attention of the National Tube Co., which induced him to come to it at McKeesport. Later he returned to the Edgar Thomson works, but for the past seven years he has been general manager of the National Tube Co.'s McKeesport plant, and there has manifested notable executive ability, especially in

the reconstruction of the plant at a cost of more than \$12,000,000.

His return to the South under the auspices that have made him president of the greatest iron and steel corporation of that section is, perhaps, the token that an end is coming to the necessity for technically-trained young men of the South to go to other parts of the country to find themselves. Indeed, this end is indicated by the steadily-increasing number of calls in the South for graduates of agricultural and mechanical colleges, an instance of which was recently noted by the MANUFACTURERS' RECORD in the letter from Mr. Thornwell Fay, first vice-president and general manager of one of the Southern Pacific lines in Texas, to President H. H. Harrington of the Texas Agricultural and Mechanical College. Referring to that letter, President Harrington writes to the MANUFACTURERS' RECORD as follows:

Mr. Fay's letter was based on the experience which he has had with two of our graduates that have been engaged four and two years, respectively, in this kind of work which he outlines, so our men must be giving him satisfaction. The Southern Pacific system, over which Mr. Fay presides in Texas, and over which Mr. E. B. Cushing, a graduate of this institution, presides in Louisiana, employs a very large number of our engineer graduates. They have, in many instances, begun as trackwalkers and section foremen, going up rapidly to division engineers and other positions of responsibility. I mention this because I feel that your paper will be interested in knowing that Texas is educating her own young men to fill industrial positions within the State.

THE FUTURE SITUS OF THE WORLD'S IRON AND STEEL INDUSTRY.

Edwin C. Eckel, until recently, when he resigned to take up private practice, chief of iron-ore division of the United States Geological Survey, in an article in this week's issue of the MANUFACTURERS' RECORD on the absorption of the Tennessee Coal, Iron & Railroad Co. by the Steel Corporation, says:

The acquisition of the Tennessee Company marks a transition point not only in the career of the Steel Corporation, but in the development of the Southern iron industry. The affairs of the Steel Corporation now become national in scope, and its control of important Southern properties must inevitably influence its future policy. The effect on the Southern iron situation will, however, be more immediate and more impressive. To the South the entrance of the Steel Corporation into the Alabama iron trade means greater steadiness in market conditions, more rapid development of finishing capacity, and the consequent rise of important secondary manufacturers. It also means, and this effect will probably be the most immediate and most striking, a rapid enhancement in values of Southern iron-ore and coal lands.

Then referring to the gradual absorption which has been going on for the last year or two of iron-ore properties in the South, Mr. Eckel says:

Few realize how far this purchasing movement has been carried, and fewer still appreciate the fact that it differs very markedly from previous occurrences in this line. The point of difference lies in the fact that the recent land purchases have been made by existing iron and steel companies or by groups of capitalists amply able to hold the

properties acquired until time shows a substantial profit on the investment. Ore lands so held will never again reach the open market, but will in future figure simply as items in new consolidations or extensions of existing companies.

And discussing the fact that some independent interests connected with the Northern iron trade have become holders of Southern coal and iron-ore lands, Mr. Eckel says:

" * * * this movement will be greatly accelerated by the entrance of the Steel Corporation, and that its more prominent competitors will endeavor to strengthen their ore reserves as rapidly as possible.

In connection with the purchase of the Tennessee Company, by which the Steel Corporation secures, based on an estimate of available ore to the 1000-foot level, about 400,000,000 tons, attention is called to the fact that though this may seem an enormous tonnage, it by no means ends the possibility of competition in the iron and steel trade in the South, for other iron companies hold equally as heavy ore reserves, while absolutely undeveloped ore properties must also be reckoned with. Thus the South secures the benefit of the entrance into this field of the Steel Corporation, which can draw into the Alabama work the highest technical skill available in this country or abroad, and which at the same time can provide ample capital for any expenditure which may be deemed wise without the corporation securing anything like a monopoly of the industry. On the contrary, its purchase adds immensely to the value of properties held by other companies, and makes certain a disposition on the part of independent iron and steel people and of capitalists generally to invest in Southern coal and iron-ore properties more freely than ever before.

It is worth while, in this connection, to bear in mind the report of Mr. Eckel on the iron-ore reserves of the United States, advance copies of which have just been issued by the United States Geological Survey. In this report Mr. Eckel calls attention, as the MANUFACTURERS' RECORD did several years ago, to the blunder made by the Swedish expert who in his report on the known ore supplies of the world estimated the total as only 10,000,000,000 tons, with but little more than one-tenth of that credited to the United States. In his official report Mr. Eckel says:

The Lake Superior district, at present the leading American producer, has been explored more thoroughly than any other ore field in the United States, but estimates as to total tonnage range within rather wide limits. At present the totals commonly quoted vary from 1,500,000,000 to 2,000,000,000 tons. This supply is being drawn on to meet a constantly increasing annual demand, and before 1915 the district will probably be called upon to ship over 50,000,000 tons of ore a year. It is obvious that at such a rate the Lake Superior ores can hardly be expected to last beyond the year 1950, and it is equally obvious that long before that date the value of good workable deposits of iron ore, both there and elsewhere in the United States, will have increased immensely.

In this report attention is called to the possibilities of large iron-ore deposits in the Rocky mountain and Pacific States, and to the possibility that exploration work will develop larger supplies of magnetic iron ores in the East, but that in both cases estimates as to quantity are impossible. Referring to the South, however, he says:

With regard to the Southern ores the case is very different. Here the work which the Geological Survey has carried on during the last three years, and which was so planned as to obtain data on the quantity of ore available, gives a fairly secure basis for tonnage estimate. It is safe, therefore, to submit the following figures as representing minimum values for the workable iron-ore reserves above the 1000-foot level in certain

Southern States, with the caution that further exploratory work in the South will probably greatly increase rather than decrease these estimates:

	Red ore. Long tons.	Brown ore. Long tons.
Alabama.....	1,000,000,000	75,000,000
Georgia.....	200,000,000	125,000,000
Tennessee.....	600,000,000	225,000,000
Virginia.....	50,000,000	300,000,000
Total.....	1,850,000,000	725,000,000

This gives a total estimated reserve for the red and brown ores of the four States noted of over 2,500,000,000 tons. If to this we add the ores occurring at deeper levels in the States named, and also the red and brown ores of Maryland, West Virginia, and Kentucky, and the magnetic ores of the other Southern States, it is probably fair to assume that the total Southern ore reserve will amount to very nearly 10,000,000,000 tons, or five times that credited to the Lake Superior region. Much of this ore is, of course, unworkable at the present day, but all of it should be counted on in any estimate of total ore reserves.

Accepting the estimate of 1,500,000,000 to 2,000,000,000 tons of available Lake Superior ore, though it is, of course, not impossible but that larger supplies may be discovered in that region, it is interesting to remember that the Lake Superior district is already mining over 40,000,000 tons a year, and with the increasing consumption of iron which is taking place in this country and throughout the world it is very well within bounds to estimate that in less than 10 years that district will be drawn upon for between 55,000,000 and 60,000,000 tons a year, and at 60,000,000 tons as an average for 30 years, and this, we believe, is entirely too low, the known available supply of ores in the Lake region would be exhausted in that time. On such a limited time as this is the iron and steel business of Pittsburgh and the Lake region founded, so far as knowledge of ore supplies now goes. Any extension of its life beyond that period must depend upon the discovery of new sources of supply not now known of, or else the slackening up of the iron and steel business in the East in order to lengthen the life of its ore reserves. In either case the situation becomes intensely interesting for the South. In the world's consumption of iron and steel there will be no slackening up, so far as can now be seen, except for temporary periods. It is likely to double in the next 10 years, as it has doubled in every 10-year period for half a century. By 1916 or 1917 we must be making at least 50,000,000 tons of iron instead of 25,000,000 or 20,000,000 tons now. To do that new sources of supply must be found in the Lake Superior district or the supply of ore must be drawn upon so heavily as to endanger the future stability of the Northern iron interests, or else a very large proportion of the increase demanded by the growth of the country must be provided for by the South. And when we come to the Southern situation we find a marvelous condition. According to Mr. Eckel's report to the Geological Survey, Alabama, Georgia, Tennessee and Virginia, counting only to the 1000-foot level, have a minimum of workable ores of 2,500,000,000 tons, or considerably more than the Lake Superior district; but counting the deeper levels, and ore is already being mined in Birmingham much below the 1000-foot level, Mr. Eckel estimates that it is fair to assume that the total Southern ore reserve will amount to very nearly 10,000,000,000 tons, or five times that credited to the Lake Superior region. Though a considerable part of this quantity is of low-grade ore, which will not for the present be in demand, it is still a source of supply for the distant future. Omitting this lower grade of ore and counting only to the 1000-foot level, there is still a known available supply of ore in the

central South far beyond the known supply of the Lake Superior district, thus furnishing a foundation for an iron and steel industry far greater than that of the entire country at present.

For 25 years the MANUFACTURERS' RECORD has been proclaiming these facts to the world, and at last the scientists, the practical steelmakers and the great capitalists are proving by their works the truth of what we have long been presenting through these columns.

"THE RAID ON PROSPERITY."

Mr. Ed Woodall of Hillsboro, Texas, president of the Texas Cottonseed Crushers' Association, in a letter to the MANUFACTURERS' RECORD, says:

Your editorial entitled "Forward" came as a soothing balm and an awaker of hope to the hearts of the progressive business men of the South, and undoubtedly to the whole country. And had the good advice that you have given from time to time in your able editorial columns of the MANUFACTURERS' RECORD been heeded we would not have at this moment been in the financial turmoil in which we find ourselves. But it is only in such times as these that the people can be brought to think, and now they are paying the price for the gospel of hate that has been so disastrously preached by political demagogues and yellow newspapers and those who continually appeal to the lowest and basest in men. The farmer in Texas in the last 30 days has seen his cotton decline more than \$10 a bale, his cottonseed \$6 per ton, his hogs 1½ cents per pound and the other commodities he raises in proportion thereto, and all undoubtedly as a result of the continual warfare and agitation against the railroads and other great corporations that have in the past so greatly assisted in making him prosperous. Just how long a suffering public will listen to the siren song of the political demagogue no one can say, but undoubtedly there is dawning sentiment in the country against his kind, and probably when the present panic has passed the people will conclude that they cannot afford to longer "chase the shadows whilst they lose the substance." It is a great pity that a few hard-headed demagogues can bring down penalties upon millions of their dupes and by a little foolish legislation drive away millions of capital and assist the far-away bears in bringing down the price of the farmer's products. Texas is undoubtedly the greatest of all States in its varied resources and undoubtedly needs a great deal of capital to develop them, but it is with shame its highest and best citizenship must bide its face when it contemplates the acts of its Legislatures and other officials. However, it seems that these things are brought home to us now, and out of it all will grow a new order of things. I write you thus as an appreciation of your many able efforts in behalf of the South, and quote from our local paper, which copied the editorial above referred to with this comment:

"The following timely article appears as an editorial under the above head in the MANUFACTURERS' RECORD. It is reproduced because it so aptly and tersely describes the present situation and the causes leading to it, and is so full of hard common sense, as well as for the excellent counsel it contains regarding the view that should be taken and the course pursued by people of every occupation and trade. Every reader should cut this article out, and if not paste it in his hat, at least preserve it for future reference, and it will be fine reading in the future as well as now."

Again assuring you of my appreciation of your great efforts in behalf of a more prosperous country, I am, etc.

Facts such as those set forth in this letter—and their mass is being swollen by almost every-day developments in different parts of the country—are a certain vindication of the positions long held by students of the situation who have not hesitated, in the face of what for the moment has passed for public opinion, to warn the country against the consequences of wholesale and promiscuous assaults upon the railroads, the industrial aggregations and other direct agencies in the maintenance and wider and wider diffusion of prosperity. One of these is Dr. James R. Day, Chancellor of Syracuse University, who for

nearly two years has lost no opportunity to give forcible expression to his convictions as to the greatness of his country and as to the effect upon that greatness, a baleful and far-reaching effect, of the hacking by irresponsibility, incompetency or reckless disregard for all save self against not only the material means of the country's steady advancement, but also against the constitutional safeguards of property rights and individual freedom. His utterances, which have already been given wide publicity in current literature, have now been gathered with some degree of elaboration into a volume, "The Raid on Prosperity," published by D. Appleton & Co. of New York, that will appeal to thoughtful readers, whether or not they agree with the author in all his premises or approve of all his illustrations, arguments and deductions, and which sets forth a mass of thoughts which are worthy the sober consideration of everybody interested in the welfare of his country.

For instance, Dr. Day has done well in iterating the distinctive character of the present times, the fusing of all ages into them, their intensity, their excitement and rush with their inventions, political agitations, money-getting fevers and jostling for fame, and with all their great possibilities in contemporaneous wonderful physical development, utilization of the immeasurable forces of heat, light and electricity in the expansion of manufacturing, commerce and other instruments of progress. He notes the pitiable condition of minds of men who stand protesting against the logic of twentieth-century events, or who use the ills of that logic, inseparable from any human endeavor, as a basis for an attempt, regardless of the safe and sane principles of well-tested law, to harass, harm and hamper the operations of the great instruments. He argues that the vast problems which it is the mission of the United States to solve have demanded energies of gigantic proportions and have resulted in the joining by individuals of their brains and moneys and their formation of themselves into corporations for continuity of purpose and of economy of power to bring about the best results. To corporations he traces our ability to "enjoy a thousand things as the common people that 50 years ago was the exclusive luxury of millionaires and princes." He instances the journey by rail today of seven and three-quarter hours from New York to Buffalo, which, within the memory of men still living, required ten days or two weeks by canal-boat; the comparatively small price of the indispensable typewriter and the economy of the transatlantic liner supplanting smaller steam vessels and a host of sailing ones. And he likens the men who are shouting themselves hoarse over trusts and corporations and swollen fortunes to the men of the eighteenth century who smashed Arkwright's loom and Whitney's cotton gin and who ridiculed George Stephenson's locomotive, drawing a strong parallel between the experience of inventors of the machinery that, supplanting tedious hand-labor, opened up immeasurable ranges for human endeavor in productivity and the experience of latter-day inventors of the physical, mental and financial machinery for the thorough exploitation of the resources of nature and the prompt distribution of the products to the benefit of humanity.

Against these developments he sets the vital dangers inherent in openly violent or insidiously silent sapping of the

integrity of citizenship, the safety of our institutions in freedom of speech, the straining of the Constitution to meet the exigencies of whimsical statesmanship and the obscuration of common law and common sense in a government by investigating commissions and committees. Upon demagogic, either of dementia or dishonesty, has been built up a passion or a prejudice in the public mind naturally infecting popular leaders, great and small, and consequently tending to paralyze in frenzied politics the elementary factors of prosperity and, worse even, to honeycomb the pillars of the State. The resultant situation is thus epitomized by Chancellor Day:

We have so many laws and so many sniffing commissions, so many special and assistant prosecuting attorneys barking on the scent, that the business man today cannot tell from one day to another whose law he is violating. Men have been arraigned within a short time who were as much surprised as any man could be when they were charged with criminal business. Things that were lawful suddenly became unlawful, and things lawful from the beginning in their States all at once, by hitching a commission to the Constitution by a statute, became crimes in all of the States. • • • The political laws and commissions and messages have become a menace to our very fundamental form of government and to our commerce and manufactures, and we cannot awake too soon if we are to stay the imperiling tendency of the hour. Today farsighted business men sit helpless before the riotous forces that have laid their hands upon the wheels of manufacture and trade and that threaten to turn out of our shops and factories and trades hundreds of thousands of mechanics and laboring men within the next year. The spirit of investigation has discredited nearly every man's business and posted warnings everywhere until men do not know where to insure their lives or where to invest their savings. The word comes all along the line from conservative men to slow up until the future can be seen more clearly. Nothing on earth but this universal distrust from unwise and useless investigations could stop the progress of the most prosperous age the world has ever seen. Every condition fills our sails prosperously, but our captains are called pirates, our cargoes are branded as stolen and men of business of great aggregations are known as buccaneers. That is the alarm which was constantly shouted and which the commissioners are trying by ex parte methods to justify. And there are too many thousands who believe it to make it safe for the country, which always depends upon the confidence of the people for business prosperity.

It may be possible for super-men to bring in the millennium ahead of time scheduled by the Almighty. But miasma is about the poorest means that could be selected for working out the miracle and the demagogue, the most undesirable agent. As between the man who has everything to lose and nothing to gain and the man who has nothing to lose and everything to gain, the choice of a safe leader in any enterprise would normally fall upon the former. The demagogue has nothing to lose ever. The mob has no memory. Therefore, being, as most of us are, mere humans, perhaps the path of sanity and safety lies along the lines suggested by Chancellor Day, as follows:

Stop investigating and shouting thief at every great form of business. Restore the confidence of the people. If there are evils to correct, correct them without the bugles and drums of investigating commissions. Use the common law and common sense which served the world quite well until this sudden spasm of government by commissions and investigations. Dismiss the commissions, which must justify their existence by smelling for rotten things, and give the country peace and rest. Any government by investigating commissions or committees will keep the country in a constant state of agitation, for in the nature of things such methods must be kept busy. And there are always things to investigate. You can stir them up in anything from a corporation to a church. I have known ministers who kept churches stirred up and disgruntled and divided from the time their pastorates began until they ingloriously ended, none too soon, by trying to create a millennium after a hand-made pattern of their own invention. We all want the most perfect things in government and business, but there are some things that cannot be done offhand, and the more you work at it the more you bungle the job. There are laws of being and progress and intelligence and ethics that cannot be legislated and that cannot be set aside or hurried. If they could be, the millennium makers would have had things all adjusted long ago. But the world's history is full of the useless patents and the broken implements of men who started out to hurry up the world and change it over in a day.

It may be added that the world's history is strewn with the wrecks of fortune and the blasted lives of victims of confidence unwisely misplaced in self-acclaimed inventors of express trains to the millennium and that, nevertheless, the demagogue may always count upon his mob.

\$500,000,000 NEEDED FOR WATER-WAYS IMPROVEMENTS.

At last the country is thoroughly aroused, as is indicated by the conventions which are being held in different sections, to the importance of river and harbor improvement. For years the MANUFACTURERS' RECORD has hammered upon the necessity of a broader-gauged policy in the improvement of our rivers and the deepening of our harbors, but the country somehow looked askance upon all work of this kind, and the river and harbor bill in Congress was for a long time the subject of ridicule. Men did not, or would not, foresee that the country was growing far beyond the advance in transportation facilities. Now they have realized that our position was correct. Three or four years ago the MANUFACTURERS' RECORD warned the public that it would take at least \$5,000,000,000 to adequately develop the railroads of the country to meet increasing traffic, and we urged that the Government should, through a bond issue of \$400,000,000 or \$500,000,000, prepare immediately for carrying out as rapidly as it could be done the completion of all the river and harbor work which had been favorably passed upon by the army engineers. Some of the foremost advocates of river and harbor work have thought that an annual appropriation of \$50,000,000, if assured for the next 10 years, would cover this work as rapidly as it could be advantageously handled, but it seems absurd to suggest that, when the railroads of the country can spend over \$500,000,000 a year and still not keep up with the growth of traffic, the National Government could not judiciously handle the expenditure of more than \$50,000,000 a year.

If we are to meet the conditions of the day, if the progress of the country is not to be halted for lack of transportation, but, on the contrary, if it is to be tremendously stimulated by better water transportation facilities, to lessen the tension upon the railroads and to meet the growth of the country, then, instead of spending \$50,000,000 a year, the Government should, as a minimum, prepare to expend certainly two or three times that much. The dilatory way in which governmental work is generally performed will not meet the needs of the hour. If this work is to be done at all, it might as well be done with energy, and that does not in any way mean that it cannot be done just as thoroughly and at a much less cost than if stretched over a long period of years.

The MANUFACTURERS' RECORD wants to urge upon the people who are working for river and harbor improvement and upon Congress the great importance of quick action on a broad and comprehensive plan of development, involving not the expenditure of a beggarly \$50,000,000 a year, for this is indeed beggarly as compared with the wealth of the country and with the wealth which will be created by its expenditure, but that we prepare to spend several times that amount, and that to do this a bond issue of \$500,000,000 be authorized. Then the whole work from the Lakes to the Gulf, from the Atlantic to the Pacific, could be carried out with the utmost dispatch. Only in this way can we hope to lessen the strain upon our transportation facilities under which the railroads have almost broken down. It seems inconceivable that a country as vast in every respect as is this, its people recognizing, as every student of economic conditions has long done, that the expenditure of \$500,000,000 in river and harbor improvements would bring to the country a net annual profit largely exceeding the total investment, should be so slothful and so niggardly in carrying out such an undertaking to its own great profit.

The MANUFACTURERS' RECORD rejoices that the people of the country are being so thoroughly awakened to the importance of the subject that those along the Atlantic coast line have this week been holding a convention in Philadelphia, seeking to impress upon the country the importance of the inland waterway from New England to Florida; that in the central South conventions are being held to stimulate an interest in the improvement of the rivers of Alabama and Tennessee and other States, while early in December a national rivers and harbors congress will be held in Washington, with delegates from every part of the country, with a view to crystallizing the nation's interest in this great question. But the MANUFACTURERS' RECORD would once more urge upon those who are leading in this movement that they widen their horizon and take a broader view of the situation, and instead of asking for an annual expenditure of \$50,000,000, ask that Congress at this session authorize the issue of \$500,000,000 of bonds to be expended as rapidly as the work can be judiciously pushed in carrying out all the river improvements which the army engineers have already passed upon as thoroughly feasible. In this way, and in this way alone, can we measure up in this work to the opportunity of the hour.

GERMAN POLICY IN CONTRAST WITH AMERICAN.

A good illustration of the deep personal interest which Emperor William takes in the development of the industrial activities of Germany is found in a story told by an American manufacturer. Some time ago this manufacturer while in Germany was asked by a friend, the manager of a large concern, if he would be willing to make a bid upon some important machinery contract for a German house with the understanding, in advance, that even if his bid was the lowest he probably would not get the contract. The American asked his friend why such a condition prevailed, that he should be asked to make a bid with the practical understanding in advance that, regardless of the price, he would not receive the job. In substance the reply was this:

Not long ago, in the purchase of some important machinery for our plant, an American firm offered to supply what we needed at 2000 marks less than his German competitor. The order was given to the American house and created some discussion in the German papers. Some months after that

contract was let I had the pleasure, at a public reception, of being introduced to Emperor William. When my name was announced the Emperor asked me if I had not recently given a contract to a foreign house in competition with a German firm in the same line. I told him that I had. He then asked for my reasons, and I explained that I had done so because the price was 2000 marks lower than the lowest price offered by the German house. In reply to this Emperor William suggested that, in view of the franchises which my company held of a semi-public character, the interest which such an organization should have in upbuilding the industrial interests of Germany, it would seem to him that a small difference in price should not have stood in the way of giving the order to Germany, and when in reply to this I intimated that it was business enterprise to secure material at the lowest cost, he suggested that when next I had such competitive buying to do and found that the bid of a foreign house was lower than that of German houses, to give the contract to a German house, send him a memorandum of the difference, and he would give his personal check to my company for its loss in not purchasing foreign machinery.

This story, quoted substantially as it has been reported, indicates the spirit of the German Emperor, who has been such a powerful factor in the upbuilding of the commercial and industrial activities of Germany. In close personal touch with the very heart of Germany's business activities, he is a great factor in the development of that country, a tremendous influence in its advancement, and to his spirit of co-operation with the leaders in Germany's material affairs is to be credited very much of the great advance which that country has made in industry, in finance and in commerce during the last quarter of a century.

The theory of the German policy regarding the development of the industrial interests of the country is shown in another policy involving the sale of German products in foreign markets at a lower price than in the home market. The German idea is that it takes so much to clothe and feed a man; that whatever he can produce beyond the cost of being clothed and fed and cared for inures to the whole community. If he is idle he must still be fed and clothed, and the cost of this is of necessity a drain on the productive energies of those who are at work. Therefore, in dull times, or when the home market will not absorb all of the manufactured products of Germany, it is regarded by the State as a wise policy for manufacturers to sell their products abroad and, if necessary, at a much lower price than in Germany, even at actual cost. The Government takes the ground that in this way laborers are kept employed and that if the goods be sold for simply enough to pay the actual cost of production, the foreigner is thus paying the expense of the maintenance of the German laborer who, without this system, would be out of employment, and therefore a drain on the community. In the eye of the German Government every idle laborer lessens the wealth of the country to the full extent of what it may cost for his maintenance. Idleness is, therefore, not only an injury to the man, but a drain on the wealth of the country. This point, of course, is not new, but in the United States, contrary to the policy of Germany, a manufacturer who sells abroad at a lower price than in the home market (and this may sometimes be done, although not by any means so often as is claimed) is berated and denounced by many newspapers and many speakers as an outrage upon the American people.

Some time ago the writer sat in a gathering of business men listening to a number of addresses on important

business matters. One of the speakers was a minister of German decent, although thoroughly unfamiliar with German economic conditions of later years. He bitterly denounced many of the American economic policies of the day, including protection. He berated American manufacturers for selling the products in foreign markets at a lower price than in the home market, and then, in what he thought was a brilliant peroration, suggested how dire would be the wrath of the German Government upon any manufacturer of that country who dared to sell his products abroad at a lower price than at home, and dozens of people heartily applauded him without one single conception of the falsity of his teaching, and without any more knowledge than he had of the fact that the policy of the German Government was directly contrary to the position that he was taking. The land is filled with half-informed men who attempt to discuss public questions affecting the business interests of the country, and he who can rant the longest and the loudest, he who can most bitterly denounce the great business organizations of the country, is regarded, or rather we should say, he has been regarded, as worthy of commendation and emulation. Fortunately, bitter though the shock has been, the American people are being awakened, they are coming to learn that blind demagogic leaders have been leading the blind down into the ditch of ruin. Possibly the time will yet come when American public men will see with that far-eyed vision and keen judgment which have marked the career of Emperor William in the upbuilding of his country.

AUTOMOBILISTS AND LAW.

The MANUFACTURERS' RECORD has a correspondent who evidently has lost the point sought to be made in a recent editorial protesting against willful and persistent disregard of the law by many users of automobiles. He has written us quite a long letter protesting against the editorial, and though he states that the letter was not intended for publication, because he is not fond of seeing his name in print, we believe that, for the benefit of others who may share his mistaken view of the editorial, we are justified in reproducing parts of his letter, without the use of his name, as an aid toward clear vision. He writes:

As a rule, you take up the side of right and justice, but in this case you do not consider a good many things that enter. In a great many cases the laws governing the operation of automobiles are made by men who have seldom, if ever, driven a machine, and certainly know little of their ability to be stopped quickly. It is easily demonstrated that a horse driven at a speed of eight miles an hour is a much more dangerous proposition than an automobile going 15 miles an hour, provided, of course, that the drivers of each are competent men. Too often it is also the case that local laws are made and enforced by magistrates who, after stopping, making a charge against and fining an automobilist, divide the fine among themselves. Automobilists are at a loss to understand why they should pay money to other citizens for infraction of the law. It should go to the State or to the betterment of the roads. The old slogan, "Let him that is without sin cast the first stone," is as applicable now as it was in the days of old.

Gambling is against the law. Everyone knows it, and yet how many peaceable, law-abiding citizens in this country, both male and female, do engage in games of poker, bridge, whist, etc., where money is at stake! No matter how small the stake, the law is broken, and yet everyone who owns a deck of cards is not held up before the world as a possible criminal nor made the subject of fanatical editorials.

There is a law in many States that prohibits the standing of horses unhitched, but how many law-abiding citizens bother to tie the horse every time the rig is left standing?

And yet, again, how many casualties are caused annually by this disregard of the law!

And still the owners of horses are not branded as criminals or suspicious persons. Why not be reasonable? The automobile has come to stay. It has done more than anything of modern invention to build up suburbs and cause outlying hosterries, resorts and the holders of real estate to flourish. In the near future we will see our farmers—your readers in many instances—bringing their products to market in motor trucks and their families to town in automobiles. It costs 15 cents to haul a ton a mile with a horse, but five cents to do the same work with a motor truck.

So why not cultivate a kindred feeling between the users of automobiles and the general public? Pass rational laws, such as obtain in the State of Connecticut, and rather endeavor to adapt the general public to the new condition that practically compel the operators of machines to infract the laws because of the inability to drive a machine, in many cases, slowly enough to conform to them.

There is not a single suggestion about violation of law in other directions made in this letter in evident justification of violation of law by automobilists that does not emphasize the purpose of the editorial criticized—the purpose to warn against disrespect for law and its certain consequences. The arguments in defense of violations of the law by automobilists hardly bear upon the subject. For instance, if there are any irregularities in the disposition of fines imposed upon lawbreakers, even the lawbreakers have redress at law for the punishment of such irregularities.

The words—it is hardly proper to call them "the old slogan"—"Let him that is without sin cast the first stone," were never intended to enable one sinner to persist in his sin and to excuse himself for it by pointing to other sinners. Moreover, if a great many automobilists do not quit their particular sin, that of overriding public law and public decency, pretty near all the stones are likely to come their way. And that's exactly one of the reasons why the MANUFACTURERS' RECORD uttered its warning. It does not want one form of lawlessness to breed another form. It does not want lawless automobilists to be punished except in accordance with law.

Is it a fact that wherever games of chance are played for stakes the law is violated? Granted that it be so, there are a great many games played with cards for no stakes or for no prizes, and, of course, it is absurd to suggest that the ownership of a pack of cards renders a man liable to be regarded as a possible criminal. It is equally absurd to suggest that owners of horses are likely to be branded as criminals or as suspicious persons because some owners disregard the laws prohibiting the leaving of horses unhitched. Most owners of horses have sense enough, even were there no law, to hitch their horses or leave them in competent care, if only for the safety of the horses themselves.

Laws, as a rule, are made not against the use of cards or of horses, but against their improper use. And such is the purpose of laws affecting the operation of automobiles.

The trouble seems to be that by far a greater number, proportionately, of automobilists than of users of any other kind of vehicle act as though there was no danger to themselves or to their more valuable machines in their conduct on the road. Perhaps the outlying hosterries and resorts which, according to our correspondent, the automobiles have caused to flourish so are responsible for their drivers' recklessness. Be that as it may, it is becoming more and more obvious that enthusiasm for road improvement is

being checked and the ready adoption of the automobile to business, as well as pleasure, is being hampered by the evidences and results of that very recklessness, and that antagonism to all automobilists is being developed because of the foolhardy lawlessness of some of them.

The suggestion of our correspondent that operators of machines are compelled to break the laws because the machines cannot be driven slowly enough to conform to the laws is in line with the excuse for other notable violations of the law in this country which is responsible for the growth of lawlessness generally. But it is never safe to attempt to amend a law by violating it.

NO MAN LIVETH UNTO HIMSELF.

The country is suddenly forced to a realization of the truth that no man liveth unto himself. Men of the West and of the South boasted that their sections could not be affected by financial conditions of New York. How often have we heard that the South, and again that the West, is no longer interested in Wall Street's operations. Men thought—or at least some did—that you could bankrupt Wall Street without seriously hurting other sections. Two months ago a Western banker said that every security of every American railroad might be wiped out without hurting his State—Colorado. "We are," said he, "so rich and solid financially and so busy at home that we have no interest in what Wall Street says or does." What a sudden awakening. Men have been almost dazed at the quickness with which every accustomed condition has been changed. They are learning that the world is quickly affected by changes here; that our troubles are re-echoed in every European financial center; that the decline in our securities has brought losses to investors in every other land. Every man is indeed his brother's keeper, and no man, no country, liveth unto himself or itself.

The lesson has been a severe one. It has cost every section of our common land and every class of people many millions of dollars. Cotton-growers are \$100,000,000 poorer for it. The laboring men are in the aggregate suffering, present and prospective, several times that much. They have learned that bankers and railroad owners, corporations, great or small, cannot be made to suffer without the pinch going down through every grade of society and of business. Bitter as the lesson is, deep as will be the suffering of millions, hungry as some men already are, there may come a great blessing from it. We may learn that there is a unity of interest which binds every class, rich and poor, and that the one cannot suffer and the other go free—a unity of interest which binds every section and every country. Men have sown hate and falsehood, and the harvest has been loss of confidence. Fundamentally there is nothing the matter with the country. Every basic condition excepting confidence is sound, but the people have been made to believe that everybody is a thief. The practice of some farmers of packing bad fruit in the bottom and good fruit on the top is a disgrace to American honesty. Some farmers handle milk carelessly and some sell milk from diseased cows. Let us, therefore, ride into political prominence and power by unceasingly denouncing all farmers; let us day in and day out, year after year, warn the public that drinking milk or eating butter will surely lead to every

known disease. Let us paint the picture so vividly that no man will ever lift a glass of milk to his lips or ever taste a piece of butter without remembering all the possible horrors lurking in them. Let us carry on a crusade against dairymen and farmers; let us paint them as enemies seeking our death by milk and butter from diseased animals in order that they may kill off everybody else and then claim all the property of the country. Does this sound idiotic? It is not more so than nine-tenths of the public agitation against business leaders and corporations of the last few years. And if carried out in the same way and by the same people and by the press for five years no man by that time would dare risk his life by drinking a glass of milk. If the people of the country are brought to study these things and to learn how the destruction of faith in the honesty of others undermines every business interest and brings suffering to all, the lesson may in the long run be worth its awful cost. But let us turn to the upbuilding of faith, to the restoration of confidence, to the elimination of the policy of criticism and destruction, and once more our country will start on a career of abounding prosperity.

TO BEGET CONFIDENCE.

Illustrating the confidence-begetting spirit which the MANUFACTURERS' RECORD has been urging is a circular-letter which the A. B. Farquhar Company, Ltd., of York, Pa., has addressed to parties from whom it purchases, offering to spot cash all bills to January 1 at 1 per cent. discount, in order to assist in relieving the money stringency. Referring to this circular Mr. A. B. Farquhar, president of the company, writes to the MANUFACTURERS' RECORD as follows:

We believe that everyone should try to pay their bills at the earliest possible moment, and should be careful to immediately deposit in bank any funds or currency that may come in their possession. This would tend to relieve the money stringency. The wise action, however, of the President and Secretary of the Treasury in meeting the emergency with bonds and certificates we believe will serve to restore confidence, and hoardings will find their way back in bank and the money stringency will probably soon be over, but it will be some time before business resumes its former status. The depression will not last nearly as long as it did after the '73 and '93 panics, for the reason that the country is very much richer, but we cannot expect an immediate restoration of good times of the past two or three years.

HOW TO HASTEN PROSPERITY'S RETURN.

Referring to the recent legislative action against corporations by Alabama and the bill introduced into the Louisiana Legislature, the *Commercial and Financial Chronicle* of New York says:

The only comment needful to make on action of this kind is to say that it must tend immeasurably to retard that recovery of confidence in the business and financial world for which the people of the whole country, East, North, South and West, are just now praying.

The politicians, big and little, who are carrying on this campaign of destruction are bringing to the country losses which in the aggregate promise to exceed the losses due to the Civil War. The business people—and under this head should be classed every man not in political life—owe it to themselves to make such an unceasing fight against such political action as will turn the tide and help to bring about that much-needed return of confidence and prosperity in place of delaying it, as is certain to be done if the politicians have their way.

ALABAMA'S DESPERATION.

A mass-meeting at Montgomery last week of business men from 51 counties of Alabama adopted a resolution requesting the Legislature in extra session to refrain "from the passage of additional legislation at this time affecting the business interests of the State." The reasons for this resolution were set forth as follows:

"At the regular session of 1907 the Legislature of Alabama enacted a number of laws regulating railroad freight and passenger tariffs in the State of Alabama.

"The jurisdiction of the courts has been invoked to test the validity of some of said laws, with reference to the reasonableness of said tariffs, which are still pending and undetermined.

"An extra session of the Legislature has been convened, and bills have been introduced to repeal the laws involved in said litigation, thus depriving the railroad companies of the right and opportunity to have the validity of said enactments determined by the judicial department of our Government, and numerous other bills have been introduced in the legislative department of our Government involving the same subject-matter of the statutes and above enactments called into question by the litigation, and adding thereto excessive penalties for the violations of said laws.

"These further enactments would necessarily tend to create the impression abroad that vested interests are not adequately safeguarded by proper laws in the State of Alabama and a fair and impartial enforcement thereof, thereby curtailing the investment of non-resident capital within our State, and its further internal improvement by means thereof.

"At the present time great unrest and financial stringency prevails in the United States, by which our interests are directly and indirectly affected, rendering it extremely unwise to pass any additional laws at this time which will impair the value of our industrial, railroad and corporate securities upon which loans are obtained."

The intent of the Alabama business men was good enough, to be sure, but it was about a year behindhand. To be of practical service, some such resolution as that adopted at Montgomery should have been put into effect at the time when candidates for the Legislature were announcing themselves, and should have been so enforced, as it was quite possible for the business interests of the State to enforce it, as to make it impossible for anyone to be elected to the Legislature who had not reasonable acquaintance with the elements of constitutional government and was not determined to be guided in legislative action by respect for the safe guards of individual liberty and property rights. The Montgomery resolution is very much like locking the stable door after the horse has escaped, but it will not be in vain if it become the spur to persistent campaigning on the part of the material interests not only of Alabama, but of other States of the country, to insure the election in the future of Legislatures with personal political ambitions at the minimum and qualified to act only for the welfare of the State.

THE COTTON MOVEMENT.

According to the report of November 15 of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight during 76 days of the present season was 3,661,115 bales, a decrease under the same period last season of 913,256 bales. The exports were 1,832,424 bales, a decrease of 300,266 bales. The takings were, by Northern spinners, 402,660 bales, a decrease of 100,530 bales; by Southern spinners, 601,583, a decrease of 2603 bales.

The Absorption of Tennessee Coal, Iron & Railroad Co. and Its Significance.

By EDWIN C. ECKEL of Washington.*

[Written for the Manufacturers' Record.]

Late in 1905 it became known that control of the Tennessee Coal, Iron & Railroad Co. had passed to interests closely allied to those managing the Republic Iron & Steel Co. More ambitious plans to bring about a general merger of the stronger Southern companies having failed, the new management of Tennessee devoted itself to improvement of the technical efficiency of the plant, and for the moment the Southern iron situation seemed likely to remain undisturbed, for some time at least, by further changes of ownership in the large companies. Now, barely two years later, the financial crisis has forced the Tennessee Company into the hands of the United States Steel Corporation, and Wall Street learns with surprise that a Southern iron company is not always merely a gamblers' tool, but is sometimes worthy of the attention of our foremost financiers. As with former deals of this type, the immediate result has been the prompt publication of all sorts of statements concerning the importance of the new acquisition, ranging from the mildly exaggerated to the absolutely false. It is unnecessary to say that these publications are not made by the management of the purchasing company, but by those who are interested in the success of the Steel Corporation simply as a necessary basis for transactions in its stock. Those acquainted with the iron trade realize that exaggerated statements are not needed in connection with this merger, for the reality is interesting enough.

Press notices emanating from Chicago throw a rather amusing sidelight on the situation. They inform us, in substance, that Chicago experts consider that the difficulty with the old (i. e., the Topping) management of the Tennessee Company was that it had not sufficient knowledge or ability to handle properly the difficult question of low-grade ores, and that the superior skill now available will readily solve this problem.

A more just view of the situation would appear to be that the recent management of Tennessee was not in any way deficient in technical ability or in foresight. The nature of the problems to be encountered was clearly understood, their solution was provided for, and only the lack of the funds necessary to carry out these plans prevented the establishment of a rival whose competition would have been a matter of serious concern to the Steel Corporation in good times or bad.

The absorption of the Tennessee Coal, Iron & Railroad Co. by the United States Steel Corporation is the most important occurrence in the iron trade from both financial and industrial points of view, since the formation of the Steel Corporation itself. Control of the Tennessee Company makes the Steel Corporation temporarily an important factor in the foundry-iron trade, though it is to be expected that as fast as finishing capacity can be created the Tennessee furnaces will cease to make foundry irons and be run entirely on basic iron. In the meantime the Steel Corporation secures by this purchase a good open-hearth steel plant and rail mill, both recently increased in size and effectiveness. It becomes also the largest indi-

*Until recently, when he resigned to practice his profession, Mr. Eckel was chief of the iron-ore division of the United States Geological Survey, which has for three years been making a comprehensive investigation of the iron ores of the South.

previous occurrences in this line. The point of difference lies in the fact that the recent land purchases have been made by existing iron and steel companies, or by groups of capitalists amply able to hold the properties acquired until time shows a substantial profit on the investment. Ore lands so held will never again reach the open market, but will in future figure simply as items in new consolidations or extensions of existing companies.

It may be noted, for example, that interests closely allied to those in control of one of the large independent Northern steel companies have in the past three years acquired important holdings in Virginia, Georgia and Alabama, including iron-ore and coal lands, furnaces and mills. Though the properties so taken over were selected with little apparent discretion, and were paid for at rates which were as satisfactory as unexpected to their old owners, the holdings taken as a unit are important, and under reasonably careful and honest management would be an important factor in the new Southern iron situation.

Exactly similar purchases of undeveloped lands have been made by other parties prominent in the Northern iron trade, and a surprisingly large acreage is now held so strongly as not to be considered available for future operations except at reasonably high tonnage prices. It is only fair to expect that this movement will be greatly accelerated by the entrance of the Steel Corporation, and that its more prominent competitors will endeavor to strengthen their ore reserves as rapidly as possible.

The chief difficulty heretofore has been that the types of ore most common in the South were so different in composition and character from those to which Northern furnace men were accustomed that it was difficult to realize their value. To one used only to Lake ores, the red ore of Alabama seemed a very doubtful proposition, while the brown ores were subject to still greater suspicion. The example of the Steel Corporation in taking over large holdings of ores of this type will do more to convince the Northern capitalist of their value than would any amount of argument based on furnace returns.

The South and American Iron-Ore Resources.*

By EDWIN C. ECKEL.

About two years ago, in response to a request from the Swedish Parliament, an eminent Swedish geologist prepared a report on the iron reserves of the world. The report itself attracted little notice in the United States, even among those directly interested in the iron industry, but early in 1906 a summary of the report was forwarded by the American consul at Paris, and the wide circulation given to the consular reports in America resulted in drawing considerable attention to the matter in both the daily and the technical press.

The character of the report in the form in which it reached the American public is fairly indicated in the following extracts:

"It will surprise a great many to learn that we are likely to run short of iron inside of a single century if we keep up the present rate of consumption. As a matter of fact, we are more likely to increase the consumption than we are to reduce it. The world has only 10,000,000,000 tons of iron ore available. Of these, Germany

*From an advance chapter of "Mineral Resources of the United States, Calendar Year 1906," by the United States Geological Survey.

has twice as many tons as the United States. Russia and France have each 400,000,000 tons more than this country. * * * Assuming, therefore, as true the claim of geological science that the extent of the workable iron-ore beds is known to within a margin of possible error not exceeding 5 per cent., the Swedish report, which is based upon the most authoritative information, has naturally attracted world-wide attention."

It must be admitted that an official statement such as this (the Swedish report) might fairly cause alarm to those unacquainted with the facts in the case, and that the daily press cannot be blamed for taking the matter very seriously. As a matter of fact, however, the original Swedish report did not do justice to the American iron-ore deposits, and in the consular translation the injustice was accentuated rather than lessened.

Before taking up the subject of American iron-ore reserves in general it may be well to dispose of one statement in the quotation: "Assuming, therefore, as true the claim of geological science that the extent of the workable iron-ore beds is known to within a margin of 5 per cent. * * * This assumption appears to

be entirely gratuitous. No mining geologist of any experience would make such a claim, except for very small or unusually uniform ore bodies. Elsewhere, in discussing the Clinton or red ores of Alabama, the writer has said: "The amount of Clinton ore in any area can probably be determined by a geologist within 5 or 10 per cent., and estimates of red-ore reserves can therefore be made by competent men with a degree of accuracy impossible in dealing with the magnetites, hematites or brown ores of other districts." The Clinton ore, it must be remembered, is an exceptionally easy ore to estimate, because it occurs in bedded form and is fairly uniform over considerable distances both vertically and horizontally. In dealing with irregularly-shaped ore bodies an estimate which came within 25 per cent. of the actual quantity might well be considered remarkably accurate. When, however, the estimate covers not a single area or deposit, but the total iron ore contained in a State or nation, the case is very different, for the possibility of error in such an estimate is enormous.

The Lake Superior district, at present the leading American producer, has been explored more thoroughly than any other ore field in the United States, but estimates as to total tonnage range within rather wide limits. At present the totals commonly quoted vary from 1,500,000,000 to 2,000,000,000 tons. This supply is being drawn on to meet a constantly-increasing annual demand, and before 1915 the district will probably be called upon to ship over 50,000,000 tons of ore a year. It is obvious that at such a rate the Lake Superior ores can hardly be expected to last beyond the year 1950, and it is equally obvious that long before that date the value of good workable deposits of iron ore both there and elsewhere in the United States will have increased immensely.

In the Rocky Mountain and Pacific States a few large iron-ore deposits are known, and many others are reported, but any attempt at an estimate of total tonnage would be, with only our present knowledge of the subject, merely the wildest sort of guessing.

A more promising field lies in the older Eastern States. It is probable that careful exploratory work will develop magnetic iron ores in New York, New Jersey and Pennsylvania in quantities far in excess of anything usually considered possible in those States. Here also close estimates are impossible.

With regard to the Southern ores the case is very different. Here the work which the Geological Survey has carried on during the last three years, and which was so planned as to obtain data on the quantity of ore available, gives a fairly secure basis for tonnage estimate. It is safe, therefore, to submit the following figures as representing minimum values for the workable iron-ore reserves above the 1000-foot level in certain Southern States, with the caution that further exploratory work in the South will probably greatly increase rather than decrease these estimates:

	Red ore, Long tons.	Brown ore, Long tons.
Alabama.....	1,000,000,000	75,000,000
Georgia.....	200,000,000	125,000,000
Tennessee.....	600,000,000	225,000,000
Virginia.....	50,000,000	300,000,000
Total.....	1,850,000,000	725,000,000

This gives a total estimated reserve for the red and brown ores of the four States noted of over 2,500,000,000 tons. If to this we add the ores occurring at deeper levels in the States named, and also the red and brown ores of Maryland, West Virginia and Kentucky, and the magnetic ores of the other Southern States, it is probably fair to assume that the total Southern ore reserve will amount to very

nearly 10,000,000,000 tons, or five times that credited to the Lake Superior region. Much of this ore is, of course, unworkable at the present day, but all of it should be counted on in any estimate of total ore reserves.

In considering these figures it will be well to bear in mind that the Southern red ores will average from 33 to 43 per cent. metallic iron, but that they carry so much lime as to be almost or quite self-fluxing. The brown ores, as washed, will range from 40 to 50 per cent. metallic iron. It may be further added that the estimates as to red-ore tonnage are probably much more accurate than those relative to brown ores.

To sum up the matter: In place of the 1,100,000,000 tons credited by the Swedish geologist, it is probably safe to say that the United States has from ten to twenty times that reserve of iron ore.

Assuming that the demand for iron ore during the present century may range from 50,000,000 to 100,000,000 tons per year, the Lake Superior district would last for from 25 to 50 years more if it supplied the entire United States. But counting on the known reserves elsewhere in the United States, the ore will last for a much longer period, though, of course, it must necessarily show a gradual but steady increase in value and in cost of mining, along with an equally steady decrease in grade. No attempt is made here to consider a very important factor in the problem—the extent to which Cuban, Haitian and other high-grade foreign ores may be imported in the near future.

The South is practically unsupplied with ores below the Bessemer limit in phosphorus. Considering the region as a whole, it may be said that its present ore supply is of two types—(1) red hematite of rather low iron content (35-40 per cent.), but frequently containing sufficient lime to be self-fluxing; (2) brown hematites, ranging from 38 to 52 per cent. iron, usually high in silica. Neither of these types is characteristically low in phosphorus, and during the prevalence of the Bessemer idea the general use of Southern irons was for the foundry. With the rapid rise of the basic open-hearth process, however, much of the Southern product now goes into steel-making, and this proportion seems likely to increase rapidly. In addition to the two classes of ore above noted as supplying the bulk of the present Southern output, large deposits of magnetic ores, though not extensively worked at present, are known to exist.

Alabama.—Commercial, geographical and geological differences permit the separation of the iron ores of Alabama into six groups:

1. The Clinton red or fossil ores of the Birmingham district, including ores occurring in the territory tributary to Birmingham from Springfield south through Birmingham to the southernmost outcrop of red ore.

2. The red ores of Northern Alabama, including ores in territory tributary to Chattanooga, Attala and Gadsden.

3. The gray hematites of Talladega and adjoining counties in East Alabama.

4. The brown ores of the Russellville district in Northwestern Alabama.

5. The brown ores of the Woodstock district, mostly in Eastern Tuscaloosa county.

6. The brown ores of Eastern Alabama, occurring in a belt extending from the Georgia State line, near Rock Run, southward through the Coosa valley country to near Briarfield.

Of these six areas the Birmingham district contains the principal reserves of red ore in the South, while the Russellville district is perhaps the most promising of the Alabama brown-ore regions, so far as

possibilities of future extension are concerned.

In the spring of 1907 it was reported that the Champion brown-ore mines, located a few miles north of Oneonta, were to be reopened and worked by the Tennessee Coal, Iron & Railroad Co. These mines, currently believed to be among the richest in the State, are owned jointly by the Tennessee and the Sloss-Sheffield companies, and have been idle for a number of years, owing to disagreement between the owners. It is stated that 35 cents per ton is to be paid as royalty for ore extracted by the Tennessee Company under the present agreement.

During 1906 the Potter ore lands in the Birmingham district were purchased by the Republic and Tennessee companies jointly. Though the Potter tract is estimated to contain only about one-fifth as much ore as was involved in the Hill lease, it is of interest as a matter of comparison to note that the Southern companies secured their ore for practically one cent per ton.

Georgia.—The present iron-ore production of Georgia is confined to a relatively small area in the northwestern corner of the State, and there is little prospect that this productive area will be materially extended in the near future. The ores now worked are (1) brown hematites, associated chiefly with Lower Silurian and Cambrian limestones, and (2) red hematites—the well-known Clinton ores. The latter do not reach the extreme development, either as to length of outcrop or thickness of bed, which is notable in Alabama. The Georgia brown ores, on the other hand, occur in extensive and important deposits. Magnetic ores are known to occur in the Piedmont district of Georgia, but so far they have not been carefully prospected. Those seen by the present writer were too small to warrant consideration as a source of furnace supply, but it is possible that workable deposits will yet be found in this district.

Maryland.—Two distinct sources of ore have been worked to supply the Maryland iron industry, and a third group of promising deposits is as yet untouched. The worked ores have been derived from (1) deposits of brown hematite in the Coastal Plain region, associated with cretaceous sands and clays, and (2) deposits of brown hematite in the valley regions, associated with Lower Silurian and Cambrian limestones. The third class mentioned, which gives promise of future value, includes a series of deposits of red hematite and magnetite occurring in the Blue Ridge region and associated with schists and gneisses.

In this connection it may be well to note that the present large production of pig-iron and steel in Maryland is not based to any important extent on local ores, but on ores imported from Cuba and Spain.

North Carolina and South Carolina.—The Carolinas are of interest as possible future producers of iron ores rather than as serious factors in the industry of today, for only one important mining operation is located within their limits.

Though deposits of brown hematite are known to occur at various points in North and South Carolina, the ores to which attention must be paid in future are the magnetic ores of the western portions of both States. At the Cranberry mines in North Carolina these ores have already been handled in considerable quantity. Similar lenses of magnetite are known to be both frequent and extensive elsewhere in the Carolinas.

Tennessee.—The iron production of Tennessee is derived from three sources, the deposits worked chiefly falling in one of the following classes: (1) Red or Clinton hematites of the western side of the valley of East Tennessee; (2) brown

hematites from the valley itself, and (3) brown hematites from Lawrence and other counties in middle Tennessee. None of these groups of deposits appear to have reached or even approached their maximum possible development.

Texas, Arkansas and Missouri.—The three Southwestern States here grouped are of little present importance as iron producers, and offer little hope for the future. The most promising ore deposits of the region are those which occur in Texas. Here, in the northeastern counties, extensive though thin beds of brown hematite are found, while in Llano and adjoining counties magnetic ores of good grade but unknown extent have been located.

Virginia.—Considered from either an industrial or a geologic point of view, the iron ores of Virginia fall into six groups:

1. Magnetites and specular hematites of the Blue Ridge and Piedmont districts.

2. Red hematites (Clinton ores, "fossil ores," "oolitic ores") of the foothills of the Allegheny mountains.

3. Brown hematites (Oriskany ores) of the Goshen-Longdale-Oriskany district, mostly in Augusta, Bath, Botetourt, Alleghany and Craig counties.

4. Brown hematites of the New River-Cripple Creek district, mostly in Wythe and Pulaski counties.

5. Brown hematites of the Roanoke, Shenandoah and Page valleys.

6. Brown hematites ("gossan ores") of Carroll and Floyd counties.

Of these classes of ores the Oriskany brown ores are at present the most important. Together with the magnetites, the Oriskany ores also give most promise of future supply.

West Virginia.—The only kind of iron ore occurring in workable quantity in West Virginia is brown hematite, for the red Clinton hematites of the State are thin and the carbonate ores of the coal regions cannot be considered as serious possibilities. The brown hematites occur in two regions, the deposits of the two differing in character and relations. The ores of the Shenandoah valley area of Jefferson and Berkeley counties are now mined on a small scale, and are associated with Cambrian and Ordovician limestones and shales. In the Allegheny foothills a different series of iron-ore deposits occur, entirely comparable to the Oriskany ores noted in the description of Virginia. These ores are as yet but slightly developed, but give promise of being of high importance in the near future.

The Ohio Valley Improvement Association at its meeting last week at Wheeling, W. Va., elected Messrs. John L. Vance of Columbus, Ohio, president; J. F. Ellison of Cincinnati, Ohio, secretary and treasurer, and vice-presidents as follows: West Virginia—Hullihan Quarrier, Wheeling; D. A. Mossman, Huntington; B. W. Peterson, Wheeling, and B. S. Pope, Parkersburg. Ohio—Albert Bettinger, Cincinnati; H. A. Marting, Ironton; D. J. Sinclair, Steubenville, and J. T. Williams, Portsmouth. Kentucky—W. W. White, Louisville; W. A. Patton, Catlettsburg; S. A. Fowler, Paducah, and W. C. Williams, Louisville. Indiana—F. B. Posey, Evansville; M. C. Gardner, Madison; Charles Hedgewald, New Albany, and O. H. Odell, Evansville. Illinois—George Parsons, Cairo; J. F. Willis, Metropolis; E. A. Smith, Cairo, and J. F. Browninski, Joppa.

William Nelson Cromwell and J. W. Castles of New York have been elected directors of the Central of Georgia Railway to succeed Oakleigh Thorne and Marsden J. Perry. Mr. Castles is president of the Guarantee Trust Co. of New York.

SOUTHERN COAL FOR BRIQUETTES

By FREDERICK E. SAWARD.

[Written for the Manufacturers' Record.]

One of the most interesting results of the Jamestown Exposition, and in connection therewith, was the establishment of the fuel-testing plant of the United States Geological Survey near that location. There have been many tests made there of various fuels, and one may expect a most important showing as to the efficiency of our Maryland, Virginia and West Virginia coals especially. I refer to these particularly because the availability of samples at this point is most marked. It was also possible to secure others to a less extent. In connection with this testing plant, as one might say, or with the exposition, if you care to put it so, was the making of briquettes from slack coal supplied by some of the most important of the West Virginia coal districts.

These briquettes were used on one of the torpedo-boats with the best results as to steam making. I append herewith an accurate statement as to this test, with remarks thereon.

There is much that is valuable in these briquette tests, for the simple reason that in this form the slack coal is increased in value fully three times. This is no idle statement, and everyone who knows the uses and the extent to which these briquettes are put abroad can see that herein is truth. We often find it difficult in this country to dispose of slack. Say that it is worth now as a steam fuel 60 cents a ton, by perfecting this process of briquette making it could readily be sold at three times that price. When we get to this phase of the fuel situation and have a factory at tidewater to use up the slack our steam coal will be shipped as screened, the same as the best Welsh, and there will be no more complaints abroad as to the amount of fine in cargoes that we may send to any port in competition with British coal.

The National Advisory Board of the United States Geological Survey on testing materials held its first meeting at the Jamestown Exposition October 25. This board was appointed by the President, and is made up of representative engineers and chemists from all parts of the country, about 40 in number. On October 26 a paper was read by E. D. Nelson, engineer of tests of the Pennsylvania Railroad, on "Fuel Briquetting." Arrangements were made by the Geological Survey officials to have the board as guests on a trial run on one of the torpedo-boats lying in the Norfolk navy-yard, on which some of the briquettes made at the testing plant would be used. On this run no attempt was made to keep any accurate records, as the torpedo-boat used was an old one, not in good shape, and the crew was picked up in a hurry and many of the firemen were green men.

Ordinary Pocahontas coal was used under one boiler, and the briquettes, which were made of New River coal, with about 7 per cent. of coal-tar pitch as a binder, were used under the other. The run made was from the navy-yard to the capes and back, and weather conditions were good. On the way out no instructions were given to the firemen as to the handling of the briquettes, and they were fired in the same manner as coal. Large quantities, 15 shovelfuls or so at a time, were fed to the fireboxes, and the fires were raked and sliced, while about two inches of draft was used.

Owing to these absolutely incorrect firing methods, the briquettes gave out a considerable amount of smoke and did not keep up steam well. On the way back, however, the Geological Survey experts

on board were allowed to change the style of firing, with the result that there was an almost total absence of smoke and the steam pressure was ample.

The following were the only figures kept as to consumption, etc.:

	Coal.	Briquettes.
Tons used.....	3 1/4	2%
Revolutions.....	8% greater
Draft (inches).....	2	1
Steam pressure (pounds). 80-120	140-180	

The highest speed attained was about 30 miles an hour, which was very good under the conditions. The trial as a whole made a good showing for the briquettes, and the further tests to be made by the Navy Department will be awaited with much interest. These later tests will be complete and accurate, and will show the exact difference between briquettes and coal when each is properly handled under the same conditions. A dock trial and three sea trials are to be made, using a torpedo-boat, and the battleship Connecticut has on board 150 tons of briquettes made from C. C. & B. Pocahontas coal, which will be tested on the run from New York to Hampton Roads.

I find in my researches upon this topic that in foreign countries the price is always above that of coal, no matter what the purpose to which these forms of fuel may be put. The heating value is usually put above that of coal. In Trieste, Austria, bituminous briquettes sell at \$5 to \$6.50 per metric ton, according to the quality of coal dust used in the manufacture. In Vienna there is a growing trade in the domestic grades, and they sell at from \$7.25 to \$9 a ton. In many of the other Austrian cities, such as Prague, there is a traffic in briquettes of importance, and quite naturally the price varies according to distance from the source of supply of the raw material.

Belgium is a country of cheap fuel, and one can get patent fuel at \$4 a ton at almost any of the larger centers of trade and traffic. It is used for locomotive firing, in power plants, and, in fact, for many steam purposes, as well as domestic, the size varying as well as the weight. One who has not seen this form of fuel cannot well imagine the usefulness and cleanliness thereof. In France they have been in use for many years—50, at least—and are a favored fuel for industrial and locomotive uses. They are preferred to coal, as their heat is more reliable. The smaller sizes, for domestic use, are on sale at hundreds of places in Paris, where oftentimes the small dealers combine the sale of potatoes and coal (patent fuel or boulets). In Germany there is a large output of patent fuel, and it is used in all manner of steam-raising and industrial purposes; also for domestic uses. It sells at \$5 to \$7.25 per ton, according to the mine or source of supply of the raw material.

Patent fuel is also in use in Spain, and at an exposition in Barcelona a few years ago an exhibit in the shape of a lighthouse was a feature. Patent fuel in Great Britain is dealt in for home use, for marine and locomotive steam purposes, and there is a large export trade therein. An official, speaking of the test at Norfolk, states:

"This test of briquettes is of commercial importance. There is a large amount of waste coal in the United States that will be converted into fuel if briquettes can be made that will burn properly for the production of heat and steam. Waste coal and lignite are thus prepared in Germany and other countries, and used with great success, and there is no reason why the same success should not be achieved in

the United States. The use of briquettes for domestic heating would vastly increase the nation's fuel supplies by bringing into general use waste and low-grade coals that are now ignored. The smoke question will have a bearing in this direction also, but the problems incident to the smoke nuisance on shore trouble only the residents of the industrial centers."

The largest and most successful briquetting plant in America is built on Canadian soil. It is situated at Bankhead, Alberta. This plant is the property of the Bankhead Mines, Ltd., and has been running since March, 1907, producing 300 tons of briquettes in 24 hours. An additional unit is being installed, which will be completed and running about February 1, 1908. This will increase the output to 500 or 600 tons per day. Coal-tar pitch, having a melting point of 140 degrees Fahrenheit, is used as a binder. The resulting briquettes are a hard, clean fuel, which is used on the locomotives of the mountain division of the Canadian Pacific Railway and by the domestic trade. Excellent results are obtained wherever the briquettes are used.

The fuel-testing plant of the United States Geological Survey at the Jamestown Exposition will be shut down after December 1, owing to lack of money with which to continue the work. The work which is now being done and the results already obtained will be of such great value to the coal producer and consumer that it is simply a disgrace to the country that further appropriations have not been made to continue the experiments for the next year without any break. There is no work done by the Government which will be of more value to the railroads and manufacturers of the country, and to discontinue the plant now for the lack of a few thousand dollars should not be allowed by those interested. If the Government will not do its obvious duty in the matter it would be a paying investment to manufacturers and railroads to furnish enough money themselves to continue the investigations and tests.

WILMINGTON'S WELFARE.

Its Citizens Confident and Determined in Advancing It.

[Special Cor. Manufacturers' Record.]

Wilmington, N. C., November 11.

Despite the mutterings from the financial storm clouds, the city of Wilmington "holds on her course, unshaken of motion." Doing business well within their means, her enterprising citizens are day by day adding to their well-fortified commercial position, and upon the solid foundations of the past are building strongly for the future. In manufactures, in trade, in agriculture, the course of the city is still upward, as facts unanswerably prove.

The figures showing the business for the present year are not at hand, for the very obvious reason that the year is not ended, but those of a year ago tell the progress of the city, and assurances are plentiful and indubitable that the same progress has been kept up and the rate still holds good. Last year the banks handled \$130,000,000 in the ordinary course of business—a fine showing for a city claiming but 35,000 people. In 1906 the banking resources were \$9,300,000, as against \$8,074,000 the year before, an increase of 15 per cent. The total business done at the port in 1906 was \$48,000,000, as against \$45,735,000 for 1905 and \$7,895,000 for 1904. The postoffice receipts were \$89,957 last year, as against \$63,151 for 1903, the last former year for which I was able to get the figures. The amount spent in buildings last year was \$775,000, against \$249,000 in 1903, the last figures available. But better than any of these things as showing the spirit of the people, their confidence in

their own town and their determination to build it up is the fact that during the past spring they voted for an issue of \$900,000 in bonds for streets and sewers.

The streets are being laid in the business portions of the city and where the hauling is heaviest with granite blocks and brick, but in the residence portions a native stone that with some wear forms a sort of concrete is being put down as a macadam. This makes a delightfully smooth surface, lacking only the springy quality to make it equal to asphalt. On one of the main streets laid last spring wooden blocks were experimented with for a small space, and the experiment seems entirely satisfactory. Indeed, the wooden blocks show less wear and have preserved the shape of the street better than the brick with which the balance of it was laid at the same time.

By the way, these blocks were treated for preservation in a way something different from the ordinary method of treating wood. They were saturated with wood creosote oil, which has been found to be an excellent preservative, in a way much more simple and easy of accomplishment than that of forcing the oil in by pressure. The blocks are sawed to the desired size—2x4x8 inches—and put into a tank into which the creosote oil is turned. The whole mass is then subjected to a heat of about 240 degrees. As water evaporates and becomes steam at 212 degrees, the moisture in the blocks evaporates and passes off in steam, the tank or retort being constructed to allow this. The oil, which does not boil under 300 degrees, rushes in to fill the vacuum caused by evaporating the water and thus fills the blocks in every fiber where moisture formerly lurked. The blocks thus treated preserve their resiliency, and when laid in a pavement lack little of being as smooth and delightful to ride over as asphalt. Crossties have also been treated in the same manner, and upon being chopped to pieces were found to be thoroughly saturated with the oil. This wood creosote oil was used in treating ties laid by the street-car company in this city 19 years ago, and when some of them were taken up recently they were found to be as square as when put down and in every way well preserved. These recent experiments were made by Mr. Thomas W. Pritchard under the direction of the American Chemical & Textile Coloring Co., one of the McRae allied concerns.

Just now the sawmills and wood-manufacturing concerns are of prime importance in this city, and are increasing in that respect right along. The discovery of value in the black and red gum, in which the coast country abounds, has given the lumber business a new impetus and added millions of dollars to the value of the lands. One concern here prepares logs for export by putting them entire in a lathe and cutting off the bark and all superfluous wood, rounding and straightening the stick until there is left only so much of it as can be used. Thus nothing but what is absolutely available will be carried. The timber mostly, if not entirely, used for this purpose is black gum. Besides this, there are six other sawmills and lumber concerns.

Other manufacturing establishments here are two large cotton mills, six fertilizer plants, one of which claims to be the largest in the world; three brickyards, six fish and oyster packeries, a bag and overall manufactory, a box factory, two cotton compresses, a winery, a wood distilling company and a host of smaller concerns. The payroll is \$4,000,000 annually.

With the deepening of the channel of the Cape Fear river to the sea to 30 feet, which will be done inevitably, Wilmington will take on a growth unprecedented any-

where in this Southeast country. Deep water will make this city the entrepot for a vast expanse of country up to now but half developed because of the lack of transportation facilities. It will be the only seaport of consequence between Norfolk and Charleston, and must perform a very large business. Even as it is, Wilmington is the fourth port in the country in cotton exportation, in spite of the fact that large ocean-going ships cannot take on a full cargo at her docks. The entire State has been aroused to the importance of this deeper water project, and will do what united effort may accomplish to bring about its fulfillment.

A most interesting fact was brought to my attention as a result of the reiterated statement in the deep-water meeting the other day that it was the one occasion in the history of the State when all the people were united for one thing. It seemed to me that statement must have been an exaggeration; that there could not always have been such division among the sections as it hinted at. Inquiry developed the fact that such was the case, and also brought about an elucidation of it. I give the story as it was given me by one of the best-posted men in the State.

One of the early settlements in what is now North Carolina was at Brunswick, on the south bank of the Cape Fear river, between this city and the ocean. There came the Yeomans colonists and struck root. They came from the Barbadoes, where for two or three generations they had been large planters, with many slaves, and they not only brought their slaves with them, but they also brought with them their lordly and somewhat intolerant manners and customs. Into the other end of the State came the natural flow of settlers from the early Virginia colonies. They were the sturdy stock that refused to acknowledge king or noble in the Old World, and had no mind to acknowledge superior beings here. When the colonies moving from either end met there was the clash that inevitably comes from the meeting of such characters as they represented. The Barbadoes crowd were not willing to meet the others on terms of general equality, and the others were not willing to deal with anybody on any other footing. The spirit of antagonism engendered in the beginning has kept the people of the State asunder for all time that has elapsed since, and it is stated as a solemn fact that the waterways meeting was the only one of importance ever held, with representation from all sections of the State, in which some spark of the old fire of sectionalism was not struck into sudden glow.

It is a happy condition that finds all sections united now for this one important object, and while all parts of the State will benefit by its consummation, Wilmington must, in the nature of things, reap most richly from its advantages.

GEO. BYRNE.

The Chamber of Commerce of Pensacola, Fla., has requested the Florida Senators and Representatives in Congress to use their utmost endeavor to secure a Government survey of an inland waterway from Apalachicola to St. Andrews bay; thence to and through Choctawhatchie bay and through Santa Rosa sound to Pensacola bay; thence to and through Mobile bay; thence to the Mississippi sound and through Lake Ponchartrain to New Orleans.

It has been decided that the next annual conventions of the Southern Supply and Machinery Dealers' Association, the National Supply and Machinery Dealers' Association and the American Supply and Machinery Dealers' Association will be held in Richmond, Va., May 13-15, 1908.

IMPOUNDING THE YADKIN POWER FOR INDUSTRY

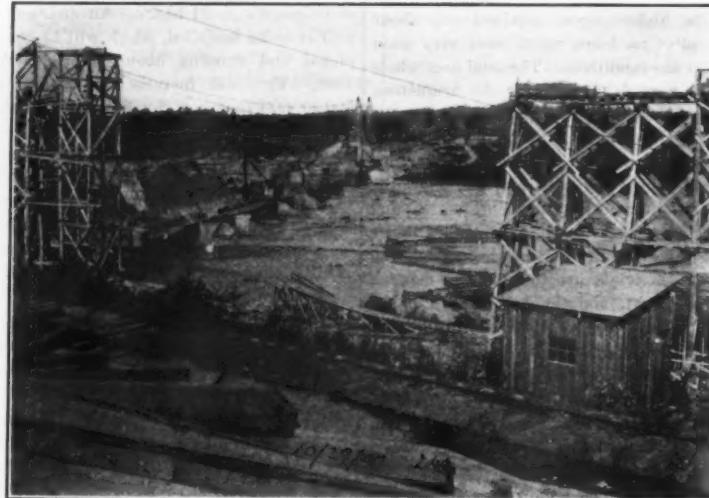
[Special Correspondence]

Rockingham, N. C., November 16.

To yoke the Yadkin, transform its mighty potentiality into that impalpable something we call electric current and flash it over hundreds of miles of wire to drive the wheels and turn the spindles of manufacture is the object now engaging the thoughts and efforts of some of the brightest, most patriotic and progressive men of this Commonwealth. The Rock-

Manufacturers' Record.]

below the dam. On the west side, immediately above the end of the dam, a large ravine comes down to the river, being narrow at the mouth, but spreading out into a large area of low ground a short distance back. Behind the bluff against which the western end of the dam rests this ravine is divided from the river below the dam by a small natural wall of earth that falls away to low ground below, so that com-



VIEW OF BLEWETT FALLS DAM UNDER CONSTRUCTION.

ingham Power Co., with principal offices in Wilmington, directing offices here and actual performances at Blewett Falls, eight miles away, is the organization that has undertaken this splendid enterprise and is carrying it to a speedy consummation.

The Yadkin is one of the most important rivers in the State. Taking its rise on the Southeastern slope of the Blue Ridge, it flows down through the hills, gathering strength and volume until, crossing the imaginary line that separates the Carolinas, and having arrived at majestic size, it becomes the Pee Dee, and as such flows into an arm of the Atlantic ocean at Georgetown, down on the South Carolina coast. At Blewett Falls the river bed is a ledge of rock that gives it a fall of about 16 feet in half a mile, and at about the middle of this fall the big dam is located. For most of its course the river presents the same conditions as other rivers that thread their way through similar country, alternating from one side to the other in a broad, low-lying strip of bottom land that rises but a few feet above the water. To build a dam of any considerable height would, therefore, necessitate extending it from hill to hill across hundreds of feet of bottom on one side. But at Blewett Falls the conditions are different. There the banks take on the form of high bluffs that come on either side almost to the water's edge, so that while the average width of the stream above and below is about 800 feet, here it is increased to 1200, and yet the length of the dam necessary to hold a big body of water and furnish sufficient fall for the production of great power is much less than it would be elsewhere, because it needs only to be carried a very short distance beyond the water's edge on either side. Therefore the choice of this spot for the location of the dam and the sacrifice of half the natural fall to a saving of hundreds of feet in the length of the structure.

Another thing which nature has provided at this point, and which adds to its economic strength, is an almost complete forebay, with a most eligible location for the power-house and an easily scooped out tailrace from that structure to the river

paratively little digging will provide for forebay, power-house site and tailrace.

Into the bluffs on either side of the river abutments have been built, with short earth wings, strengthened by small core walls that stand 10 feet above the crest of the dam. Between these abutments the length of the dam will be 1469 feet, its height above the average river bottom 48 feet. To make secure the foundation for the dam it became necessary to get the solid rock in the bottom of the stream clean and dry, and as this was to be done about

solid foundation was carried on, and, despite the fact that the entire bottom of the river seemed to be solid rock, excavations were made as deep as 20 feet in some places. For it is known that the builders of this great dam are putting it there to stay, first cost being a consideration secondary to impregnable strength and unimpeachable solidity.

Inside the protecting walls of these cofferdams the work of construction proper goes on. The building is done in sections of 50 feet, and to keep the increasing strain of the water, augmented in force as its current is restricted to an ever-narrowing channel by the ever-lengthening dam, from being thrown onto the cofferdams, 15 sluiceways 10x10 feet in size are being left, through which the water is encouraged to flow. As the foundation is prepared and the bottom cleaned and dried it is filled in with concrete, which fastens itself to the rock in the way of its own that good concrete is known to possess. The bottom once properly prepared, the work of building to it goes rapidly on, the concrete being reinforced by granite rubble running in size all the way up to three cubic yards. From the foundation up frames are built to form the mold into which the concrete is poured, giving the dam its proper shape. On the up-river side it is perpendicular, but on the lower side from the bottom it is carried up on a slant that thins it to four feet at the top. When the dam is completed the sluiceways will be closed by gates and filled in with concrete, so that from rock bottom to roll-way and from bluff to bluff the whole mass will be one solid piece of Portland-cement concrete—unbreakable and imperishable by any weight likely to be thrown against it or any time of which history is like to take note.

At the western side, just above the end of the dam, at the entrance to the forebay into which the ravine mentioned above is to be transformed, will be the drift rack, designed to prevent drift from entering the forebay and so going into the machinery. At the south side of the forebay, and



FOUNDATION WORK OF BLEWETT FALLS DAM.

midway of the rapids, cofferdams had to be built on shore and projected into the water. Heavy rock-ballasted log cribs were constructed and put in place and the dam built from one to the other around four sides. From the area thus protected the water was drawn by Emerson pumps of four and six-inch gauge, with an eight-inch centrifugal pump held in reserve for emergency service, such as the removal of flood water. As the building of the dam must be protected from water both above and below, the entire space occupied by the cofferdams up and down the river is 152 feet. Inside the dams the seeking for

about 1200 feet from the west end of the dam, a canal will be cut, and "straddling" this will be the power-house. This structure will be 272 feet long as it crosses the canal and 69 feet in width. It will be of brick, with concrete foundations. The tailrace, from the power-house to the river, 2000 feet below the dam, will be dug by a large dredge, 150x60 feet in dimensions, which was built in the river right where it is proposed for it to begin its work. It is fitted up with heavy machinery to drive the 20-inch rotary cutter and carry away through a long line of suction pipe the earth loosened up by it. To properly cut

out this tailrace it is estimated will require the removal of 300,000 yards of earth. The power-house will be equipped with two McCormick water-wheels, which will drive three 4000-horse-power units and three exciter units. The water-wheels will be furnished by S. Morgan Smith & Co. of New York, and the electrical machinery by the General Electrical Co. of Schenectady. All the machinery in the power-house will be supported by strong concrete arches.

For the work of construction preparations were made on a scale that made for rapid progress. A well-built railroad was

This dam will back the water up the river for about seven miles, causing it to cover an area of about 2500 acres. Several good farms will be submerged, but the promoters of the enterprise long ago discounted all trouble to arise from that source by purchasing all the land thus endangered. It is calculated that in cases of unusual drought a head of water of six inches in the pool will be sufficient to furnish customers with power, though not with the maximum amount. But the Yadkin drains 6600 square miles of land above Blewett Falls, and as it is territory not

take from it what power is needed. For the remainder there should be easy sale much nearer the point of generation. Within 50 miles of Rockingham are cotton mills that use 25,000 horse-power in driving their machinery. Eight years ago in the same radius the amount of power used was 10,000 horse-power. This power is developed by steam and at a cost greatly exceeding the price at which this company will offer it. There are also many other plants, such as tobacco factories, furniture factories, cottonseed-oil mills, pulp and paper mills and mills in other lines that use many more thousands of horse-power, and whose owners will no doubt be glad of the saving to be made by purchasing power offered to them at less than their present outlay, and in the most convenient form known to manufacture.

It is calculated that within a radius of 75 miles from Rockingham there is a population of 700,000, and the continual increase in manufacturing industries within the same radius guarantees purchasers for all the power this company can develop. Indeed, a large proportion of it has been already contracted.

The electrical power generated at the Rockingham plant will be transmitted principally over 200 miles of main lines, consisting of three No. 1 copper cables. These cables will be strung on steel towers 55 feet high and set 900 feet apart. The cable lines will run to Wilmington, Hartsville and McColl, and from substations along the routes other wires, strung on poles, will distribute the current to the various mills and factories where it is desired. The completeness of the plans of this concern and the substantial way in which they are being carried out may be gathered in some degree from the fact that these steel towers, each being a steel frame with four solid steel posts securely framed together, are being set every 600 feet over the main lines of 200 miles.

The development of this great project is in the hands of the Rockingham Power Co., whose president is Mr. F. H. Gouverneur, whose chief stockholder is the Hugh MacRae Company, and whose chief promoter is Mr. Hugh MacRae. All these are of Wilmington. Other stockholders are Mr. Stephen N. Bond of New York, Mr. R. L. Warner of Boston, the Colonial Securities Co. of Boston and the Electric Bond & Share Co. of New York. The estimated cost of the plant complete, with its transmission system, is \$2,430,000.

The surveys for the plant were first made in 1906 by Lockwood, Greene & Co. of Boston, one of the most widely-known engineering firms in the country. They made a report highly favorable, which was afterwards endorsed by Dean & Main of Boston, who later examined the ground, engineers sent out by the Westinghouse Company and the General Electric Co., and by Mr. Henry A. Pressey, for years in charge of the Government's hydrographic investigations. The construction plans being used were prepared by Mr. Frank E. Shedd, representing Lockwood, Greene & Co. The contract for construction was let to the Federal Construction Co., popularly supposed to be the Rockingham Power Co. under another name, and sublet by it to the W. R. Bonsal Construction Co., which is doing the work under the direction of Mr. Samuel Lawrence. W. A. Leland, a man of wide experience in work of this nature, is chief engineer and resident manager, and is assisted by Mr. C. E. Warner. Mr. W. P. Snow is engineer in charge at the dam, his assistants being Messrs. W. E. Eides, A. F. Lyman, C. M. Furman, Jr., and I. H. Garnet. The Federal Construction Co. is installing the transmission lines, the work being done under the supervision of Mr. J. S. Viehe.

The visitor is impressed with the ability

and practical strength of the entire force encountered in a call at the offices of this concern. From the chief promoter of the scheme, through the president of the company, and all along the line to the engineer or builder lowest in official grade, he encounters men who, though young as the business world counts youth, are yet possessed of the self-reliance that is born of that thorough knowledge of their undertakings which comes from training and experience.

GEORGE BYRNE.

A Cheerful Texan.

Mr. John J. Dix of San Antonio, Texas, writes to the MANUFACTURERS' RECORD as follows:

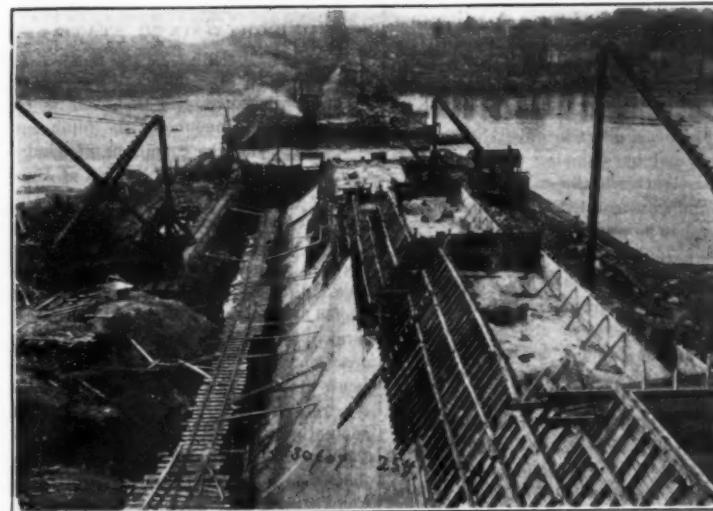
"The financial flurry in our State, in fact, in all the United States, has been and is being quite severely felt by everyone, in the country as well as in the cities. But improvements in all quarters of our State still go on with the hope of better times. The industries throughout Texas have been most wonderful, and though at present partially paralyzed by the flurry, yet we do grow, and too numerous to mention are the improvements and advances made in this State within the past three years."

The author of this cheerful message from Texas is more than 80 years old, and up to within two years ago had led an active life. Born in Michigan while it was still a territory, he went to Texas in his boyhood and at the age of 19 served as a scout and courier in the war against Mexico, and having been a stock-raiser and farmer between the close of that war and 1861 he served in the Confederate Army for four years. At the close of that struggle he became a surveyor and followed his profession until July a year ago. Having passed his eightieth birthday, he then retired from active work. His life in Texas covers nearly the whole life of Texas as a political entity. It has been an active life, and his letter shows that the hardships he must have endured have not deprived him in his age of the cheerful spirit of his youth.

The Tennessee River Improvement Association, in adopting last week at Knoxville a resolution favoring an expenditure annually of not less than \$50,000,000 on the waterways of the country, took the ground that in the program for the improvement of the waterways in the Mississippi valley, the Tennessee river and its tributaries, representing 1300 miles of navigable streams and draining 44,000 square miles, ought to occupy a prominent part. The association elected Messrs. John A. Patten, Chattanooga, president; J. H. Nathan, Sheffield; George Fort Milton, Knoxville; James Koger, Paducah; D. M. Stewart, Chattanooga, vice-presidents; W. B. Royster, Chattanooga, secretary; C. W. Olson, Chattanooga, treasurer, and additional vice-presidents, R. E. Pettus, Huntsville; C. W. Olson, Chattanooga; J. P. Gibson, Hillsboro; Virgil Boulden, Scottsboro; C. E. Hendricks, Harriman; Samuel M. Leah, Clinton; W. M. Cameron, South Pittsburg; George F. McWhorter, Riverton; James T. Kirk, Tuscaralia; H. G. Negley, Florence; Chas. F. Scofield, Bridgeport; J. L. Daniel, Dayton, representing various sections along the Tennessee river and tributaries.

It is announced that Mr. W. J. Oliver of Knoxville, Tenn., has signed a contract for the construction of several hundred miles of public roads in Cuba at a cost of about \$15,000 a mile.

It is estimated that there are sufficient reclaimable swamp lands in Mississippi to double the present cotton crop of the State and to increase the value of farm products by \$250,000,000.



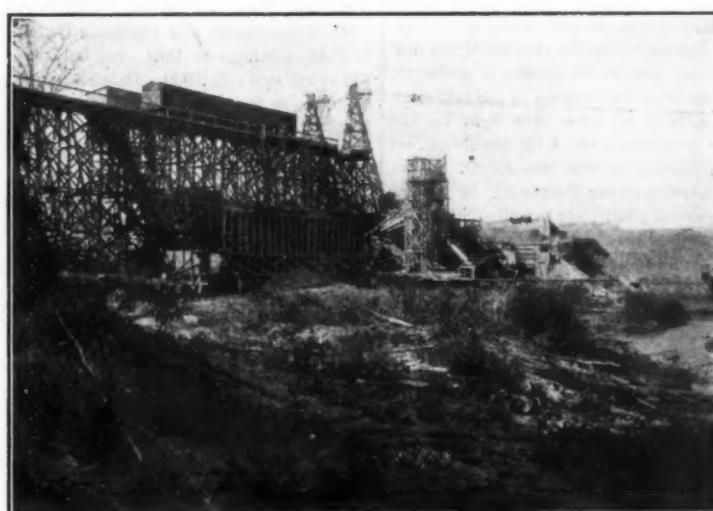
TOP OF UNFINISHED WORK OF BLEWETT FALLS DAM.

constructed from Pee Dee station, four miles away on the Seaboard Air Line, right up to the western end of the dam, over which material and supplies of all kinds have been brought most cheaply and delivered most conveniently. At its nearest approach to the dam the road runs onto a trestle 50 feet high and there unloads the sand and cement it brings into bins, whence they can be conveniently transferred into the small cars, which take on automatically the proper proportion of each and convey them to the mixer. This is a revolving steel box, holding about a cubic yard, swung on a high square tower,

often affected by drouths of long duration, it is not anticipated that there will be a curtailment of power very often. With sufficient water to run the machinery to its full capacity it is expected to develop, 28,800 horse-power for delivery, as follows:

	Shaft H. P.	Electrical H. P. metered to customer.
Primary power, 100% of operating time	20,000	16,000
Second primary, 95% of operating time	7,500	6,000
Secondary, 83% of operating time	8,500	6,800
Total electrical H. P. metered to customers		28,800

The dam is about 50 per cent completed



TRESTLEWORK AT BLEWETT FALLS DAM.

where the concrete is properly mixed. From two towers on either side of the river steel cableways stretch over the line of the dam, and along these from the mixer the cement is carried in great buckets that are easily dumped wherever their contents are wanted. Other equipment for construction consists of four traveling derricks, two guyed derricks and one stiff-legged derrick. The amount of concrete to be used in the dam, abutments, wing walls and drift rack walls is estimated at 70,000 yards.

in point of amount constructed, and about 75 per cent, in point of time since the beginning of the work of preparation.

As for the market for all this power, it seems likely that it will be harder to keep from overselling than to find purchasers for the whole amount. In the first place, the chief customer is likely to be Wilmington, 100 miles away. In that city the street-railway lines, the gas and electric plants belong to a company made up chiefly of the men at the head of the Rockingham Power Co., and will undoubtedly

CURRENT EVENTS AS VIEWED BY OTHERS

WATER, FORESTS, WEALTH.

[Boston Herald.]

The connection between a properly wooded territory and maximum of rainfall and storage of water is known at least to all who have thought at all about the problems of forestry or protection of the watersheds of the country, whether the water be used for drinking or manufacturing purposes. Pertinent to the matter is the news item from Ansonia, Conn., that the local water company, working in alliance with the Yale University school of forestry, is busy planting many thousand trees on 1200 acres of watershed. More than 11,000 white-pine trees and several thousand of other varieties have been planted, the plan being to have practically the entire area covered with a forest in due time. This forest, developed and watched by trained men, not only will provide a natural method for the rain to find its way surely and steadily into the reservoirs, but it will be a source of steady income to the company through the annual cutting of timber. Here is a pointer for other water companies. The alliance between the school of forestry and the Ansonia Water Co. is suggestive of the range of usefulness of this most practical new department of Yale University, and it indicates another field in which students of forestry are to find both training and employment.

STATE DRAINAGE.

[Raleigh Correspondence, *Western Sentinel*.]

State Geologist Joseph Hyde Pratt was here today, and gave some very valuable information as to the preliminary work looking to the drainage of the vast areas in Eastern North Carolina. He is now having preliminary surveys made of 40,000 acres of State lands, partly in Pender county, known as the Angola Bay tract, much of this being what is known as Pocosin or wooded swamp lands. He says that the object of the great work which is now to be undertaken, beginning with the State lands, is to show what can be done, and he believes this type of lands, now worth, say, \$2 an acre, can quickly and readily be brought up to a value of \$10 and \$12, and that the cost will not exceed \$5 to the acre to effect this.

Nearly 20 years ago Governor Fowl had very much at heart the scheme of developing swamp lands. A road was built by convicts through Angola Bay to open the territory, but a canal system, with drainage ditches, is what is needed most. In the greatest of the ditches boats could be used. There is all sorts of timber, including great quantities of tupelo gum, cypress, juniper, etc., and much of the land is very rich and easily handled. Of course, this will be a mere beginning, since there are vast areas of lowland, privately owned, which will be developed when the success of this official experiment is made clear.

Far too little attention has been paid up to this time to drainage schemes, the amount of land already available having been large. But there is now an awakening, and people believe that there will be a large flow of population to this eastern territory, particularly under the influence of such developing lines as the Norfolk & Southern, the Atlantic Coast Line and some other roads, and also of the immigration movement and the test farm and the land organizations like that headed by Hugh MacRae and J. A. Brown and others.

It is evident that State Geologist Pratt sees much ahead in this plan. The State Board of Agriculture will co-operate with

the State Board of Education in the test development of the Angora Bay section. The lands are held by the State Board of Education, and the profits will go into the State Educational fund. Nothing of more importance than this object-lesson for the east has been devised in many a year.

SHORT CUT TO COAL.

[New Orleans *Times-Democrat*.]

The announcement that a barge line is to be established direct from the Warrior coal fields, in Alabama, to this city, via Lake Borgne canal, has been made by Mr. Charles D. Haines, a New York capitalist who has become heavily interested in the Lake Borgne canal. Steel barges of large capacity have been ordered, and Mr. Haines declares that the service will be inaugurated at the earliest possible moment.

The Alabama fields from which the new coal supply is to be obtained are said to be about 500 miles from this city. The coal will be carried down the Tombigbee and Great Warrior rivers to Mobile; thence through Mississippi Sound and the Lake Borgne canal to the New Orleans wharves. An Alabama development company has taken over a belt line at Tuscaloosa, which will be changed from steam to electric power and used to connect the coal fields with the Warrior river at Tuscaloosa. The promoters declare that the present financial flurry will in no way affect their plans, and that the project is already financed.

When it is recalled that New Orleans is to a large extent dependent for her coal supply upon the Pennsylvania fields, distant more than 2000 miles, and that, with the rapidly-increasing consumption of the fuel, we are likely to find this supply more or less uncertain as time passes, the advantage of the new connection is manifest. A considerable tonnage of Alabama coal is now brought to this district by rail, but the establishment of a modern barge line would greatly lower transportation costs and relieve us of any worry regarding coal supply for many years to come.

With the opening of the Panama canal and the enlargement of our shipping interests, that will naturally follow, the matter of coal supply becomes highly important. While the distant Pennsylvania fields have up to this time served us satisfactorily, the Mississippi river affording an economical avenue of transportation, the proximity of the Alabama fields logically pointed the way to a short cut which now, it appears, is about to be taken advantage of. The enterprise appears to be admirably planned, and there is every reason to believe that it will prove not only profitable to the promoters, but of decided benefit to the port.

LEGISLATIVE TOMFOOLERY.

[Marion (Ala.) *Standard*.]

In response to a call sent out to various commercial associations throughout the State by the Commercial Club of Montgomery, the Commercial Club of Marion held a call meeting in the Marion Central Bank Monday afternoon and elected T. D. Kemp to meet with the various State clubs in Montgomery Tuesday for the purpose of taking steps to stop, if possible, further legislation derogative to railroads and kindred corporations. The commercial men of the State have come to realize that drastic legislation such as has been enacted and now proposed has done much toward creating the present financial panic, and unless something is done to arrest it, the end is not yet. Already large business con-

cerns, and smaller ones as well, are beginning to totter under the financial pressure, and without a change, and that speedily, there is no doubt but that the country is destined to experience similar conditions as in 1893, when a dearth of money as an exchange caused all classes of business to stagnate when there was plenty and to spare.

While there is little hope that Governor Comer and his Legislature will heed the cry of these business men, the same to whom may be credited their political preference, partial confidence may result by this organized effort to quiet the troubled waters and by stamping the disapproval of conservative business men on the unjust and unwarranted legislation now attempted to be promulgated.

While the present state of affairs is no more than the *Standard* has been predicting since the inauguration of the Comer administration, yet we are ready to admit matters now promise to reach a worse state than we contemplated. Within the next few weeks, unless a change occurs, there will be a disintegration in business that is going to shake the whole country from center to circumference, and, as usual, the South will bear the blunt of it. While the beginning of this distrust had its origin among the speculative thieves of the East, several of our Southern States, with Alabama in the lead, have added fire to fuel by radical legislation which has proven almost as hurtful.

This is one time when the South charges rascality to the Eastern money sharks and speculators. She can well take credit for legislative tomfoolery equally as effectual in clogging the wheels of progress.

COTTON-MILL SCHOOLS.

[*Mill News*.]

As the schools in the mill villages of the South are partly and sometimes wholly supported by the mill companies, and as nearly all the pupils are children of mill operatives, it appears that a course in elementary textile subjects would be a valuable addition to the curriculum of the mill schools. Though the money is given for the benefit of the children of the mill operatives, it is no more than right for the giver to receive part of the benefit derived from the use of this money. Of course, the manufacturing companies, as well as the general public, are benefited by having educated help coming into the mills; but the manufacturers would be still more benefited if the help was trained in the processes and calculations of cotton manufacturing. The preceding statement may not have appealed to some of the earlier manufacturers, who thought that in order to keep help submissive they must be kept ignorant; but this idea is dead, and it is an established truth that an educated person, though he be a common laborer, is worth more to his employers than an uneducated person. Also such a course would cause the schoolboys that are aspiring to good mill positions to take more interest in their other studies, for they could see the practical need for them.

Simple explanations of the machines and their workings, the more simple calculations and drawing would be about all that could be taught. There would be no need of a great amount of equipment, for the instructor could take the students to the mill when it was necessary to make them understand a machine.

One hindrance in accomplishment of this scheme would be the tendency of some mill men to keep these subjects as trade secrets,

but this idea also is dying out. Probably the greatest hindrance would be found in securing a competent instructor, for a man capable of teaching these subjects can earn more in the mill than in the schoolroom, but some mills could solve this problem by sending a competent man from the mill to the school for a few hours each week.

THE FORTY-SIXTH STATE.

[*New York Tribune*.]

A new State was added to the Union yesterday when President Roosevelt issued a proclamation announcing the fulfillment by Oklahoma of the conditions of admission laid down in the enabling act of June 16, 1906. The new State government was set up in Guthrie, and the five Representatives elected on September 17 became qualified as members of the lower house. Two United States Senators will soon be elected by the new Legislature. The latest entry into the Federal family breaks all precedents for size and general development. It is by far the largest community ever received into the Union. Its present population is over 1,400,000. None of the 13 colonies had a population as large as that when it joined the others to form the Constitution, or even when the census of 1800 was taken. In 1800 Virginia had 880,200 inhabitants, Pennsylvania 602,365 and New York 589,051. In 1820 the totals were: Virginia, 1,065,116; Pennsylvania, 1,047,507; New York, 1,372,111. Texas when annexed by act of Congress in 1845 had fewer than 200,000 inhabitants, and West Virginia when separated from Virginia in 1863 had about 400,000. Utah, the forty-fifth State admitted, after waiting 40 years for Statehood, had a population of only 250,000.

Nearly all the other new States of the West and Northwest were, when admitted, sparsely settled and meagrely developed. North Dakota had 182,719 inhabitants in 1890—shortly after admission—and South Dakota 328,808. Washington had 349,390. But Montana had only 132,159 in 1890, Idaho 84,285 and Wyoming 60,705. Nevada, admitted in 1864, had only 42,335 inhabitants in 1900. Oklahoma is a giant beside these pygmy Commonwealths. Ranking forty-sixth in seniority in the Federal family, the new State stands twenty-fifth or higher in population, outnumbering Maryland, and perhaps passing Arkansas, South Carolina and Louisiana. Rich in agricultural resources and with an alert, enterprising and intelligent population, Oklahoma will continue to forge ahead among its Southwestern neighbors.

COMPETENCY OF MECHANICS.

[*The Metal Worker*.]

The man who expects to derive a livelihood from the services he renders the people in any community owes it to them to possess a mastery of the line of work in which he engages. It is very clear that some tradesmen who are thoroughly informed on both the principles and practice of work which they undertake are annoyed by the demoralizing competition of men who have little qualification for the complex problems and tasks they take up. It is not always the younger tradesman who is to blame, for frequently men who have been in business for a long time have been said to stay in a rut rather than to read or otherwise make themselves acquainted with the newest practices of the leaders. In fact, it has been notable in the plumbing trade that the older tradesmen have endeavored always to avoid the necessity

of submitting to a rigid examination whenever laws exist providing a certificate of competency before a license is issued. Unfortunately, there is no such method of requiring ability on the part of the sheet metal worker, furnace man or steam fitter. Men engage to set furnaces and have not a sufficient knowledge of what is essential to insist upon being allowed to do the work in such a way that satisfactory results can be attained. Sheet metal workers agree to put tin roofs on buildings, which from the use to which they are to be put, show that a tin roof cannot be serviceable even should they avoid errors of workmanship through want of knowledge of the best way to apply the material. Steam fitters attempt to heat homes, though they may have little idea of how to determine the amount of radiation required, and frequently they run pipes of such size and such pitches and levels as to make it almost impossible for any but a few of the radiators to render efficient service. Those who boast of the good old times remember that a considerable proficiency in handicraft and skill as well as a complete mastery of how to do work was exacted from young men who left old employers to open shops for themselves. Apparently in this day little other qualification is needed than the small capital which some men are willing to go into business with. Unfortunately, those who are incapable of giving a proper solution to the business problems brought by their customers are those who are the least apt to read and study. The long evenings of the coming winter will enable them to follow the example of more ambitious men who study and take up courses in correspondence schools in order to fit themselves better to give the fair return expected by their customers.

FUEL BRIQUETTES.

[Daily Consular Reports.]

Vice-Consul A. S. Phillips of Cardiff writes that the improvement in the method of making fuel briquettes in Wales under Shedlock's process consists in forming a pitchy deposit on each particle of coal or other carbon in as thin a film as possible, thereby producing a nearly smokeless fuel. He adds:

"In other words, the idea is to render briquettes so made capable of producing in combustion the maximum of heat with the minimum of unconsumed vapor; in fact, the process is a combination of tar distillation and fuel briquette manufacture. It is carried into effect by mixing a liquid hydrocarbon tar with any suitable solid carbonaceous matter, preferably coal, in such quantity only as will produce, upon being subjected to the necessary temperature in closed vessels, sufficient pitch to bind the particles of coal upon being subjected to the necessary pressure, so as to form a perfectly homogeneous mass capable of resisting rough treatment."

"In the ordinary method, as at present practiced in the manufacture of fuel briquettes, pitch is added to the coal in such quantities (from 8 to 10 per cent.) as to produce in combustion so large a volume of dense smoke that it is found impossible to supply sufficient oxygen for its perfect oxidation. The briquette produced under the new system contains a maximum of 3 per cent. pitch, and this is so intimately combined with the solid carbon that the fuel in ignition burns with a clear, solid flame, thereby avoiding loss of calorific value by the production of heavy volumes of smoke. In addition to the foregoing advantages claimed for the Shedlock system of briquette manufacture there is the additional benefit of economy of production, for in general the cost of pitch is about twice as much as that of tar, consequently 5 per cent. of tar will be one-fourth of the cost of pitch when 10 per cent. is used."

Five per cent. of tar is the quantity required, when combined with coal, to produce the necessary 3 per cent. of pitch to form, under the new system, a solid briquette of the required homogeneity, and the 2 per cent. of volatile given off during the process are recovered and are of nearly the same value as the 5 per cent. of tar originally used. It will thus be understood that a great economy in the manufacture of the briquette is thereby secured. The cost of treatment of the materials is practically the same as under the ordinary method now practiced in making fuel briquettes."

EASTERN AGRICULTURE.

[Troy Times.]

Is there to be a revival of agriculture in the East which will go far toward restoring the old prosperity to an industry which is still recognized as fundamental? There are many indications pointing to such a result. The recent publication of facts regarding the decadence of farm life in this and other States has been followed by a great awakening in quarters where vigorous action is quite probable. In truth, it has been shown that the condition of agriculture is by no means as desperate as many have been led to believe. Another factor in the situation is the growing demand for farm products at good prices. There is hardly a housekeeper in this part of the country who has not been made to realize that pretty nearly everything which the farmer sells has advanced, often at a rate which really involves a severe additional strain on the domestic income.

Milk, butter, eggs, fruit and vegetables of every kind cost more at present than they have in years. Apples coming into market are commanding high prices. The same thing is true in a varying degree of potatoes and numerous other products. The farmer likewise is getting high rates for his hay, meats and the like. So under such circumstances there is growing readiness to form conclusions that the farmer, if his business is conducted along lines of ordinary business prudence, should be finding profit in his calling. To be sure, over against the good prices he gets in the market there is to be charged the additional expense he incurs in buying supplies. Yet, making all allowance, it is felt that the odds are in favor of the farmer.

No doubt much depends upon the methods employed. And there comes in the new movement to which allusion has been made. The Eastern farmer is learning how to do it, and the aggregate result is likely to be great gain. The notion that the Eastern agriculturist is at a great disadvantage because of Western competition is rapidly becoming modified. It is coming to be seen that the two classes of producers have distinctive fields, and while the West must continue to be the chief grain raiser of the country, there are plenty of things which can be produced in the East and sold at a profit.

WHERE THE SHOE PINCHES.

[Jefferson Jimplicute.]

The agitation spoken of in the above applies alike to every State which has made and is making war on corporations, especially railroads. The South can ill afford to continue the war. Especially is this applicable to Texas. If cotton-raisers are losing \$200,000,000 by reason of this agitation against capital, then they are certainly paying very dear for their political tirade against corporations and playing their cards to keep in office. It is time the planters should get into the merit of the case and not accept as gospel truth anything said against capital by political agitators. It is too costly to permit so important a proposition to pass uninvestigated.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Southern-Made Woolen Blankets.

Among the exhibitors of textile manufacturers at the Jamestown Exposition was the McGee Manufacturing Co. of Greenville, S. C. This company showed its full line of woolen blankets, robes, rugs, spreads, etc., and for this exhibit received the first award of a gold medal. It has a large modern plant in the suburbs of Greenville, the main building being two stories high, 62x275 feet, and the dyehouse being 40x60 feet. All the machinery in position is of the latest pattern for economical and efficient production, and includes six sets of Davis & Furber 60-inch cards, eight Davis & Furber mules, 44 92-inch Crompton & Knowles fancy cassimere looms, besides a complete dyeing and finishing plant. There is a modern mill village, with improvements for the comfort and convenience of the residents. This is a new plant, and the company's exhibit at Jamestown was of the first month's output, leaving the mill less than a month after stock was placed in the picker-room.

The Blacksburg Mills.

The Blacksburg Mills of Blacksburg, S. C., referred to last week by the MANUFACTURERS' RECORD as a proposed new enterprise, has been incorporated with a capital stock of \$250,000. This new company intends to build a modern mill for the manufacture of fine sheetings, and J. E. Sirrine of Greenville, S. C., will be the engineer to plan, build and equip the plant. The incorporators are Messrs. G. Lang Anderson, secretary of the Williamston Mills, Williamston, S. C.; J. C. Plonk, president of the Cherokee Falls Manufacturing Co., Cherokee Falls, S. C.; Andrew E. Moore, treasurer of the Loray Mills, Gastonia, N. C., and Mr. Sicrine, the mill engineer mentioned. Mr. Anderson will probably be manager, and can be addressed.

The Ridgeview Cotton Mills.

Some weeks ago the MANUFACTURERS' RECORD announced the organization of the Ridgeview Cotton Mills of Newton, N. C., the company's plan being to build a 2500-spindle mill for manufacturing two-ply 30 to 40 cotton yarns. It can now be stated that the company has plans and specifications for the erection of mill building, which will be one story high, 764 feet long by 79½ feet wide, constructed with a wood end to permit of future enlargement. Contract for brick work has been awarded to Mr. Moser of Hickory, N. C., and for wood work to Signon & Dealy of Newton. Electricity will be used for motive power. About \$56,000 will be invested. H. F. Smith is general manager.

Dunn Manufacturing Co.

Last week the Dunn Manufacturing Co. of Gastonia, N. C., began the construction of the foundations for its cotton-mill buildings. President C. B. Armstrong has received the plans and specifications, which call for a one-story 78x300-foot structure, to be equipped with 5000 spindles for the manufacture of cotton yarns. J. E. McAllister has the brick-work contract. Electricity will be the motive power of the mill, and will be purchased from the Gas-

tonia transmission of the Southern Power Co. of Charlotte, N. C. The MANUFACTURERS' RECORD has previously stated details of the organization of the Dunn Manufacturing Co., which is capitalized at \$200,000, one-half of that amount being paid in.

Shingler Cotton Mills.

The Shingler Cotton Mills will be the name of the company mentioned last week as proposed for organization at Ashburn, Ga. This company will have a capital stock of \$250,000, and intends erecting a modern plant. It will give consideration to details in about 30 days. Mr. J. S. Shingler, one of those interested, can be addressed for information.

Hanover Manufacturing Co.

The Hanover Manufacturing Co. of Concord, N. C., referred to last week as incorporating with a capital stock of \$150,000, is the lessee and operator of the Magnolia Mills No. 1. This plant contains 2040 spindles and 40 looms, and has been operated by the company since last April. Lewis W. Brander is the company's president.

Wants to Buy Denim.

The Proctor Trouser Co. of Cornelius, N. C., wants to purchase denim for overall manufacturing. Manufacturers are invited to send information and prices.

Textile Notes.

It is reported that M. B. Lewis of Birmingham, Ala., is organizing stock company to build cotton mill at Butler Springs, Ala.

The Winder (Ga.) Cotton Mills is understood to have awarded contract for additional new looms. Present plant has 6012 spindles and 350 looms.

The Lydia Cotton Mills of Clinton, S. C., is reported to have awarded contract for additional looms. The company has been operating 22,000 spindles and 438 looms.

E. P. Jones, 803 Pennsylvania avenue, Bristol, Tenn., is correct name and address of party lately mentioned as to establish knitting mill, investing about \$20,000.

The Winona (Miss.) Cotton Mills, mentioned last week, will install additional cards after January 1. Company's present equipment is 5000 spindles and 200 looms.

Messrs. W. H. Ragon and F. M. Pickett of High Point, N. C., are reported as organizing a stock company to build cotton mill. About \$50,000 is said to have been subscribed.

The Alabama Cotton Mills, J. W. Piereson, superintendent, Speigner, Ala., is reported as having contracted for machinery to double present equipment of 3300 spindles, 50 looms, 200-horse-power boiler and dynamo.

Mr. F. P. Toof, manager of the Cohankus Manufacturing Co. of Paducah, Ky., has purchased the Dixie Mills Co. in the interest of bondholders. He is said to have paid about \$29,000 for the plant, and is to arrange for a reorganization of the company. The Dixie plant is equipped for producing knit goods.

According to a dispatch from Lafayette, La., to the New Orleans *Picayune*, the Lake Grow Oil Co. brought in last week at Anse la Butte a full-fledged gusher with an estimated daily capacity of 5000 barrels. The oil was tapped at a depth of about 2000 feet, and the oil is said to be remarkably free from foreign substances. The Anse la Butte field is about six miles east of Lafayette.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

ATLANTIC COAST LINE.

Annual Report Shows Steady Progress and Much Improvement Work.

The annual report of the Atlantic Coast Line Railroad Co. covering the fiscal year ended June 30, 1907, has just been issued, showing gross earnings from operation \$26,771,528, increase compared with 1906 \$1,903,080; operating expenses and taxes \$20,442,026, increase \$3,549,827; net income from operation \$6,329,501, decrease \$1,646,747; total income \$9,002,929, decrease \$1,539,253; net income after the payment of rentals, interest, etc., \$3,117,955, decrease \$1,698,986; net surplus for the year after the payment of dividends \$125,869, decrease \$1,972,142.

The ratio of operating expenses and taxes to gross earnings from operation was 76.36 per cent., an increase of 8.43 per cent. The company operated during the year an average of 4347 miles. Detailed figures concerning operation shows that the great increase in expenses was mainly for conducting transportation, in which the gain was \$2,083,466. Maintenance of equipment also increased \$853,926, and maintenance of way and structures \$482,187.

Freight traffic increased more than 6 per cent., passenger traffic nearly 12 per cent. The company located 578 settlers (heads of families) on its lines in different States to engage in agriculture. There were also located 177 industries, including factories, mills, etc., during the year. Besides, a large number of settlers were located by private parties with whom the company co-operates.

To improve its facilities to handle business the company has bought during the year 108 locomotives, 48 passenger-train cars, 5522 freight cars, a new tugboat and a new passenger barge. All locomotives and all passenger cars and more than 95 per cent. of freight cars, excepting logging cars, have air brakes. The company now has 641 locomotives, 539 passenger-train cars and 22,979 freight-train cars. There is also being built 25 miles of double track, which should be in operation by December 1, making a total of 86 miles of double track for the system. The double track is principally between Continenae and Selma, N. C., the rest being between South Rocky Mount and Tar river, North Carolina.

Concerning other work the report says that contracts were let for the improvement of the main line at St. Mary's River Bridge, near the boundary of Georgia and Florida. The new line will be about one and one-half miles long, all on tangent, eliminating reverse curves and 1 per cent. grades. This includes a double-track steel through bridge, 180-foot span, with steel viaduct approaches. At Town creek, near Charleston, S. C., a 50-foot double-track deck-girder bridge has been delivered and will shortly be erected, the abutments now being under construction. A double-track plate-girder bridge was built over Vardell creek, near Charleston. The new freight yard at South Rocky Mount, N. C., was completed, and the new freight yard at Wilmington, N. C., is approaching completion, a number of the tracks being in use. A double-track steel bridge, 180-foot span, was built over Smith's creek at the north end of this yard. A new freight yard at Southover Junction, near Savannah, Ga., is under construction and may be completed before the end of December.

Reference is also made to the building of the new shops at Waycross, Ga., which were recently described in the MANUFACTURERS' RECORD. The company also has

done considerable other work and has in prospect more, including a five-span double-track steel bridge over the Appomattox river at Petersburg, Va., erection of which is awaiting the completion of the piers by the United States Government.

OPEN THROUGH TO SILAS.

Tombigbee Valley Railroad Building A Valuable Extension in Alabama.

The Tombigbee Valley Railroad, of which Mr. John T. Cochrane of Mobile, Ala., is president, has completed and put in operation its extension as far as Silas, in Choctaw county, Alabama, and is the first railroad to enter that county. The extension, which began at a point near Healing Springs, is to be continued as far as Butler, the county-seat of Choctaw, and may be ultimately built further. The Tombigbee Valley Railroad connects with the Southern Railway at Calvert, Ala., about 30 miles from Mobile, but it has a water terminal near Calvert, on the Tombigbee river, the name of this terminal being Nannahubba Bluffs. The railroad runs through a timber country and handles considerable lumber to its water terminal, whence it is shipped to Mobile, New York and other points. Much of the lumber activity is around Millry, where there are within a radius of two miles four sawmills with a daily capacity of over 40,000 feet of lumber. There is also a large number of railroad ties being cut, besides much cutting of staves. These latter are largely shipped to France and Germany. Another branch of the lumber industry in this region is the cutting of cedar for the manufacture of lead pencils. Another large sawmill development is at Fairford, where there is one mill with a capacity of 60,000 feet per day. The railroad company's local offices and shops are situated there.

Along the line there are now 15 sawmills, and the production of and trade in naval stores is also becoming a valuable industry. Under the control of the Gulf Land & Townsite Co. of Millry the towns of Millry, Redemption and Silas have been laid out for actual settlers. Judge W. G. Cochrane of Millry is president and manager of this corporation.

This railroad is a line of 63 miles through practically new country, and it has been planned, built, owned and operated by Alabama men. It is opening a new territory in three counties—Mobile, Washington and Choctaw—and it is developing not only the timber land referred to, but agricultural regions. It is offering inducements to home-seekers, including cheap land. Ever since Mr. John T. Cochrane took hold of this road three or four years ago he has devoted himself to its extension and improvement, as he previously did to the development of the Carrollton Short Line, now the Alabama, Tennessee & Northern Railroad, and of which he is still president. He planned the extension of the Tombigbee Valley Line to Butler, and construction is being steadily advanced in that direction. This is opening up an important section of the State, one which includes two old resorts—Healing Springs and Bladen Springs. The road may some day be also extended south to Mobile, although it has direct connection with that city over the Southern Railway.

MEMPHIS TO CLARKSDALE.

Location Survey Complete to Lake View—Valuable Franchises Granted.

A letter from Memphis, Tenn., to the MANUFACTURERS' RECORD says that the Lake View Traction Co. has just completed the permanent location survey for its line from Memphis to Lake View, and it also has a preliminary report from Mr. Arnold of Chicago, the consulting engineer for the

entire line from Memphis to Clarksdale, Miss., 77 miles. It is stated that the population served from Memphis to Clarksdale, but not including Memphis, numbers over 1200 to the mile. The general offices have been removed from the Randolph Building to Room 400 Goodwyn Institute.

It is further stated that President R. F. Tate of the Clarksdale, Covington & Collierville Interurban Company, an auxiliary of the Lake View Traction Co., has signed a contract with the city of Memphis for the 30-year franchise granted by the City Council for the use of 3d street, and also with Shelby county for the franchise granted in the territory immediately around Memphis. These franchises permit the company to build a belt line around the city and to have three entrances to connect with the 3d street route to the heart of Memphis. The cars will thus pass the new courthouse under construction and the proposed new union passenger station with freighthouse buildings in the center of the city. The road will also have tracks to both cotton warehouses and compress buildings, and also connection with the Union Belt Line and all railroads entering Memphis.

RAILWAY AND MINES.

Other Industrial Development Also Proposed by a New Corporation.

The Nelson Investment Co. of Fort Smith, Ark., capital \$100,000, is reported organized for the purpose of building an interurban electric railway from Fort Smith to West Fort Smith, about 10 miles. The company also proposes to build and operate water-works, light plants, telephones and telegraphs, street-car lines, to open and conduct mines, to develop oil lands and other property, and to make financial arrangements for its purposes.

The stockholders include the following: W. J. Echols, president of the Merchants' National Bank; C. E. Speer, vice-president and manager of the Speer Hardware Co.; J. T. Nelson, investor and capitalist; T. J. Wright of the Berry-Wright Dry Goods Co.; F. A. Handlin, cashier of the First National Bank, all of Fort Smith; Judge Joseph M. Spradling, banker and coal-mine operator of Hartford, Ark.; C. C. Nelson, president of the Citizens' National Bank of Fort Scott, Kan.; C. P. Brant, capitalist, of Indianapolis, Ind.; J. F. Boyer, banker, of Pringer, Iowa; H. B. Boyer of the Alexander-Boyer Lumber Co. of Fort Smith, and T. A. Trusty of Fort Smith, State manager of the National Life Insurance Co.

The company has organized by electing the following officers: President, J. T. Nelson; vice-president, Joseph M. Spradling; secretary, T. A. Trusty; treasurer, T. J. Wright. Other directors are C. E. Speer, W. J. Echols, F. A. Handlin, J. F. Boyer and C. C. Nelson.

MEMPHIS UNION STATION.

Ordinance for Building a \$5,000,000 Terminal—Three Years to Finish the Work.

Active steps have been taken toward building the proposed union passenger station at Memphis, Tenn., by the introduction of an ordinance into the legislative council to grant to the Memphis Railroad Terminal Co., John H. Watkins, president, the necessary franchises to build the desired railway depot. This new station, which is to cost about \$3,000,000, and the terminal improvements about \$2,000,000 more, is to front on Iowa avenue, between South 4th street and Driver street. The main station will measure 200x200 feet, with a 50-foot platform all around it, and the yard will have space for about 450 passenger coaches. There will be 12 tracks. The station, it is stated, will be

so arranged that trains will not have to back either in or out, but will be arranged so that they can pass directly through, each facing in the direction it is to go. The station, train shed, roundhouse and power-house and the necessary trackage will cover 60 acres of ground.

There will necessarily be some closing of streets in connection with the improvement, but President Watkins is reported as saying that for every street which will be closed the company either gives another or makes another street possible. About \$800,000 of real estate has already been acquired, and it is said that 45 acres of the necessary amount of land is provided for. It will take about three years to build the station and terminal.

Extensions and Betterments.

The Nashville Terminal Co., the MANUFACTURERS' RECORD is informed, has built this year 5.3 miles of additional yard track and spurs to manufacturing concerns in and adjacent to Nashville, also seventeenth of a mile of double track between the passenger station and West Lead Junction, where the Illinois Central and the Southern Railway intersect. No additional main-line mileage was built.

The Island Creek Railroad of Holden, W. Va., has built three miles of sidings in 1907.

The St. Johns River Terminal Co., Jacksonville, Fla., has built this year some side-tracking, increasing the yard capacity about 250 cars.

An official writes from Springfield, Ga., to the MANUFACTURERS' RECORD that the Brinson Railway has completed and put in operation 25 miles of road built during the present year on which the company is doing a good business. It is proposed to build 32 miles more within the next year; the northern terminus will then be Sylvania, the county-seat of Screven county, Georgia.

The Aberdeen & Ashboro Railway Co., so the MANUFACTURERS' RECORD is informed, is operating under lease the Cartage & Pinehurst Railroad between Cartage and Pinehurst, N. C., 12½ miles, which was built this year and opened for traffic on October 1.

The Norfolk & Southern Railway has opened for passenger business its line between Raleigh and Washington, N. C., via Wilson, Greenville and Farmville. The road has been open for two or three weeks for freight traffic. It is 104 miles long.

The Baltimore & Ohio Railroad has about completed its new freight yard at Brunswick, Md. It has about 32 miles of yard tracks, and it has a capacity of 7500 cars.

Progress on Mississippi Central.

An official letter to the MANUFACTURERS' RECORD says that the Mississippi Central Railroad Co., Hattiesburg, Miss., is pushing work on its new line, the Natchez & Eastern Railway, 66 miles long from Brookhaven to Natchez, Miss., laying track and erecting steel bridges from each end of the extension. It is expected to complete the line by February.

The railroad company has also done considerable work in its new shops at Hattiesburg, which have been in operation for more than a year. In the last eight months there were built 800 flat cars 40 feet long and of 80,000 pounds capacity. The shops are operated by electric power. They have a capacity of 10 freight cars per day in the car shop while the machine shop can make general repairs to eight engines per month.

The Appalachian Interurban.

The MANUFACTURERS' RECORD is informed that the railroad projected by S. A. Jones of Waynesville, N. C., is entirely financed, and construction contracts have

been let and bonded. Work is to begin as soon as the money panic has subsided. This road is to connect Greenville, S. C.; Waynesville, Rutherfordton and Asheville, N. C., and Knoxville, Tenn. Unanimous support for the project has been secured along the route from Greenville to the Tennessee boundary, 40 miles from Knoxville, on the Pigeon river. The various North Carolina counties concerned have voted bond subscriptions at the rate of \$3000 per mile, and all that remains to be done in this line is to secure similar endorsements on the Tennessee side. The Knoxville Board of Trade has, it is stated, pledged support to the project.

This road was planned by Mr. Jones under the name of the South Atlantic Transcontinental Railroad, but latterly it has been referred to in the bond elections as the Appalachian Interurban Railroad, and other persons have also become interested.

Red River Railway.

Mr. George F. Robertson, attorney and counselor at law, Atoka, O. T., writes the MANUFACTURERS' RECORD confirming the report of the incorporation of the Red River Railway Co., which proposes to build a line altogether about 200 miles long, the main line running from Oklahoma City to the Texas boundary north of Bonham, Texas. The headquarters of the company at present are at Durant, I. T. A meeting of stockholders was held at Oklahoma City on November 9, and officers were elected as follows: J. W. Hocker, president, Purcell, I. T.; F. P. Kibbey, vice-president, Byars, I. T.; Geo. F. Robertson, secretary, Atoka, I. T.; S. C. Hawk, treasurer, Lexington, O. T.

Tuscaloosa Electric Line.

The Birmingham & Gulf Railway & Navigation Co., according to a report from Tuscaloosa, Ala., is preparing to build a street railway there in connection with the Tuscaloosa Belt Line, which was taken over by the Birmingham company on November 1. The Belt Line is to be electrified, and 500 poles have already been ordered for overhead construction. The company, it is said, will also purchase 5000 crossties. Mr. J. M. Dewberry is president of the Birmingham & Gulf Railway & Navigation Co., and Mr. J. A. Vandegrift is president of the Birmingham & Gulf Construction Co., which is doing the work.

Appointments.

The Southern Railway announces the appointment of J. T. Rigler as commercial agent at Charlotte, N. C., to succeed H. S. DuVal, promoted.

The Yazoo & Mississippi Valley Railroad announces the appointment of James P. Brown as traveling passenger agent, with headquarters at Jackson, Miss., to succeed G. B. Harper, transferred.

Railroad Notes.

All the railroads entering Washington, D. C., are now using the new union station there, the Pennsylvania Railroad and other lines excepting the Baltimore & Ohio having moved in on Sunday last. The latter began the use of the station on October 27.

The Washington, Baltimore & Annapolis Railway Co. is hastening work on its line in an endeavor to put it in operation next month as promised. The completion of work has been seriously delayed by the building of a bridge over a swamp at the Patapsco river near Baltimore, but it is hoped to fill in the difficult section and have the track laid thereon by the middle of December. The company has received eight of its cars, and they are now being equipped with motors.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Will Not Close Down.

At a meeting of the Yellow Pine Manufacturers' Association at the Hotel Gayoso, Memphis, Tenn., last week the opinion prevailed that the mills should continue operations, although such curtailment should be made in the production of lumber at each plant as is necessary to meet existing conditions. The following resolution was adopted by the association:

"WHEREAS, this country is now undergoing a financial panic which has unsettled business conditions; and

"WHEREAS, the banking and financial interests have acted most wisely in caring for the situation and protecting the business public; now, be it therefore

"Resolved by the Yellow Pine Lumber Manufacturers in meeting assembled at Memphis, Tenn., That they affirm their confidence in our financial institutions and pledge themselves to co-operate in every way with the financial interests to preserve the soundness of our institutions; be it further

"Resolved, That as a complete shutdown of the milling interests of the South would work a serious hardship on the laboring men, we recommend that the manufacturers endeavor to operate their plants to such an extent as will provide employees with the necessities of life, but not to such an extent as will make it necessary for further drain on our financial institutions."

Mann & Parker's Mill Completed.

The Mann & Parker mill has been completed at Robbins Neck, S. C., on the Atlantic Coast Line Railway. It has a daily capacity of 40,000 feet of lumber, and is now manufacturing with timber brought from the firm's lands, which are estimated to contain about 30,000,000 feet of hardwood. The cut timber is logged to the Pee Dee river and conveyed across that waterway by a cableway equipment. Then it is loaded on cars for transportation to the mill, two and one-half miles distant. The logging railroad was built by the firm, and is constructed of 30-pound steel rails, its equipment including 12 cars, two locomotives and two loaders. The mill building is 32x108 feet in size, and is fully equipped with modern machinery operated by steam power. Messrs. Mann & Parker (Stephen S. Mann and Frank A. Parker) have their main offices and yards at 210, 212 and 214 West Falls avenue, Baltimore, Md. They handle poplar and hardwood lumber, both wholesale and retail.

Yellow Pine Lumber Wanted.

Proposals for furnishing 1,258,605 feet of yellow pine lumber will be opened on December 14 at Nashville, Tenn., by Wm. W. Harts, major, engineers, U. S. A.

Memphis Lumbermen's Club.

At a meeting of the Memphis Lumbermen's Club at the Gayoso Hotel, Memphis, Tenn., on the 16th inst., number of special guests were entertained and interesting questions discussed. Vice-president John H. Watkins of the Bank of Commerce & Trust Co. of Memphis spoke on the subject of "Flexible Currency," and outlined the needs of the country and commercial and banking interests for a more flexible form of currency sufficient to meet the demands for moving crops, referring to the present financial stringency as an illustration. Addresses were also made by Vice-President James F. Hunter of the Union & Planters' Bank & Trust Co., and J. H. Baird of the Baird-Cowan Company. The secretary of the club read a report recently prepared by Lewis Doster of Nash-

ville, secretary of the Hardwood Manufacturers' Association, on the curtailment of the production of hardwoods in every section of the country since the money stringency began.

Lumber Notes.

The cost of building operations for which permits were issued in the District of Columbia during October is estimated at \$344,580.

The steamer Garibaldi cleared from Bermuda Hundreds, about 35 miles below Richmond, Va., for Amherst, Nova Scotia, with a cargo of 400,000 feet of oak lumber shipped by T. C. Campbell of Richmond.

Proposals will be opened at the offices of the Isthmian Canal Commission at Washington, D. C., on December 15 for more than 6,000,000 feet of long-leaf yellow pine or Douglas fir, the lumber to be from 1 to 12 inches square and from 20 to 40 feet long.

Owing to the lack of demand for lumber and timber, a dispatch from Pensacola, Fla., states that fully nine-tenths of the small sawmills in the Pensacola district have suspended operations temporarily, and several of the large mills are contemplating closing.

FOREIGN LETTERS

The MANUFACTURERS' RECORD is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. Some of these letters indicate the disposition of foreigners to buy American goods, and are therefore of interest to our readers.

Wants Automobile Agency.

G. J. V. Bemmel, Uudenrijn (U), Holland:

"I wish a good agency for Holland for a first-class automobile. I want to negotiate with manufacturers offering different kinds of cars."

Shipments from Savannah.

Shipments of phosphate rock made through the port of Savannah, Ga., during October, as shown by a report prepared by Messrs. J. M. Lang & Co. of that city, amounted to 15,694 tons. Cargoes were shipped to Bremen, Hamburg, Barcelona, Wagram and Liverpool, consignments being made by the Dutton Phosphate Co., Mutual Mining Co. and Schillman & Bene.

Messrs. James W. Chapman, 1163 Calvert Building; Edson M. Schryver, 852 Equitable Building, and William P. Cockey, all of Baltimore, Md., have incorporated the Atlantic Graphite Co., with a capital stock of \$250,000, to acquire mines and mining rights, especially of graphites, and to mine and prepare the product for market.

The MANUFACTURERS' RECORD is officially informed that a press report to the effect that the Louisville & Nashville Railroad Co. would revise its line between Pensacola, Fla., and Selma, Ala., is premature, to say the least. While the company is making some surveys, it is not its intention to enter into any new construction at this time.

Theodore Stebbins has, it is reported, been appointed manager of the operating department of the Texas Traction Co., which is building the interurban electric railway from Dallas to Sherman, Texas; headquarters in Dallas. Construction is being rushed, and it is expected to have the line in operation, at least in part, early in 1908.

Messrs. H. P. Porter, M. T. Williams, P. B. Williams, E. A. Richardson and Joseph L. Stern, all of Cleveland, Ohio, have incorporated the East Grafton Coal & Coke Co. of Grafton, W. Va., with a capital stock of \$150,000.

MINING

World's Petroleum.

The following table, taken from an advance chapter from "Mineral Resources of the United States, Calendar Year 1906," on the production of petroleum in 1906, by W. T. Griswold, gives the figures of the world's production of crude petroleum for the last three years. The slight decrease in production noted in 1905 as against 1904 is shown also in 1906 as against 1905. This is due in 1906 chiefly to the decrease in output in the United States:

World's production of crude petroleum, 1904-06.		
	1904.	1905.
United States.	117,080,960	134,717,580
Russia.	78,536,655	54,960,270
Sumatra, Java and Borneo.	6,316,169	7,334,210
Galicia.	5,947,383	5,765,317
Roumania.	3,599,026	4,420,987
India.	3,385,468	4,137,098
Japan.	1,418,767	1,341,157
Canada.	552,575	634,095
Germany.	637,431	560,963
Peru.	49,524	37,720
Italy.	25,476	44,027
All others.	40,000	*30,000
Total.	217,589,436	213,982,524
	211,411,173	

*Estimated.

To Develop Kentucky Lands.

The Louisa Coal Co., whose main offices are at 1-3 Woodward Building, Mt. Vernon, Ohio, writes the MANUFACTURERS' RECORD that it will develop about 5300 acres of coal land near Louisa, Ky., on the Big Sandy river, bringing the production of its mines to a daily capacity of 1000 tons. Officers of the company are Messrs. F. S. McConnell, president; M. G. Watson, vice-president; Dwight E. Sapp, secretary, and J. S. McConnell, treasurer. The constructing engineer in charge is John M. Rayburn, House Building, Philadelphia, Pa.

Loading in New River Field.

Coal loading in the New River field for October shows an increase of about 40,000 tons as compared with the loading for September. It is stated that the car supply has been satisfactory, but the shortage of labor has curtailed the production somewhat. There was a total of 681 cars of coke loaded during the month at the following points: Quinnimont, 38; Macdonald, 85; Turkey Knob, 69; Collins, 93; Harvey, 82; Fire Creek, 16; Fayette, 5; Ansted, 96; Rush Run, 21; Brooklyn, 35; Chapman, 35; Kaymoor, 106.

Increases His Holdings.

It is announced that Joseph E. Throop of Earlston, Pa., has purchased 2800 acres of coal land in the Broad Top region of West Virginia, increasing his holdings in that section to about 5000 acres. Seven openings are being developed at different points on the property, and 336 coke ovens are in operation, with 46 more under construction and a number contemplated. Mr. Throop operates two iron furnaces at Earlston having an annual capacity of 225,000 tons.

A \$300,000 Mining Corporation.

The Babin Branch Mining Co. of Prince William county, Virginia, has been incorporated with a capital stock of \$300,000 for general mining purposes. P. B. Bradley of Boston, Mass., is president, and John U. Detrick, 808 Maryland Trust Building, Baltimore, Md., is vice-president. They and W. H. Detrick of Baltimore are the incorporators.

For Copper Mining in Virginia.

A charter of incorporation has been issued to the Lamb Process Copper Co. of High Hill, Va., the capital stock being \$30,000. Messrs. Richard Lamb (president) of New York, Richard Lamb, Jr. (secretary-treasurer) of High Hill, Va., and Charles Moon, also of High Hill, are the incorporators.

MECHANICAL

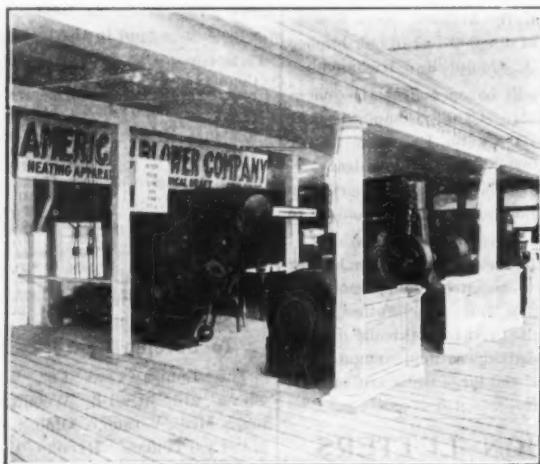
American Blower Co.'s Exhibit.

The American Blower Co. of Detroit, Mich., had an interesting exhibit at the recent annual convention of the American Street and Interurban Railway Association and its allied associations at Atlantic City, as shown by an accompanying illustration.

The suspended ball feature, which attracted so much attention at the M. M.

center, permitting them to be ground until the diameter is reduced as much as is practicable. The carriage has a good bearing on the bed, and is gibbed thereto with an adjustable gib. The carriage is drawn back from the vise in an instant by the hand lever shown, and may be locked in any position.

The drive is substantial, through steel worm provided with thrust bearing, hobbed worm wheel and steel pinions, the whole being powerful and substantial. All of



AMERICAN BLOWER CO.'S EXHIBIT.

and M. C. B. conventions in June proved equally interesting to the street-railway officials and their friends. The visitors worked their slide rules in vain in an effort to determine why the ball retained its position, and the real explanation had to be often repeated by the representatives in charge.

Anyone sufficiently interested to desire an explanation can secure same by addressing the company.

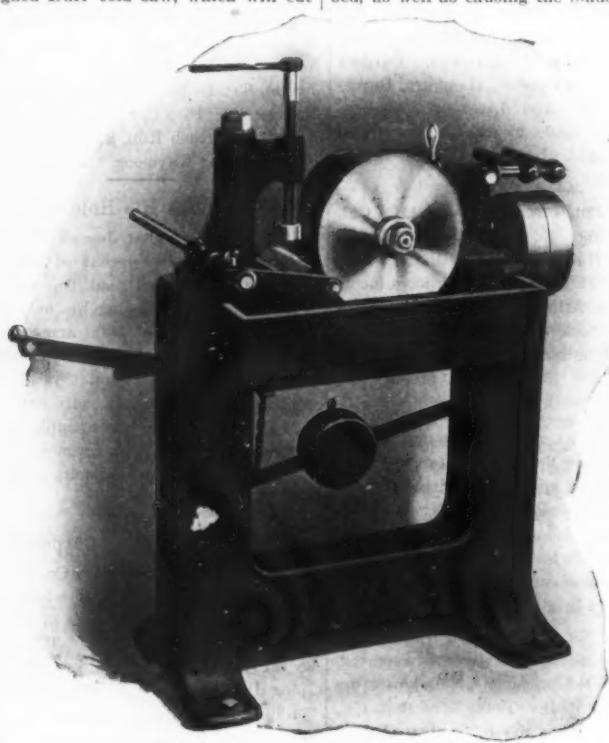
Improved No. 1 Burr Cold Saw.

An accompanying illustration shows the redesigned Burr cold saw, which will cut

the gears are covered, and the worm runs in an oil pocket.

The feed is by gravity, the carriage being advanced by a chain running over a sheave and connected to the weight lever. The feed is adjustable by running the weight out on the lever as the saw becomes dull or to adapt the feed to varying stock.

The driving pulleys are 7½ inches diameter for 1½-inch belt, and run 500 R. P. M. The sawblade cuts from the bottom upward, placing the strains into the vise arch and pressing the carriage down to the bed, as well as causing the blade to carry



IMPROVED NO. 1 BURR COLD SAW.

off round or other shaped stock, pipe, etc., to three and one-half inches round. It will do this work accurately, and uses a sawblade 10 inches diameter by 3-32 inch thick—amply heavy and powerful enough to operate as fast as the sawblade will permit.

The sawblades will last for months of steady cutting, and are hard clear to the

up a copious supply of lubricant into the cut. An automatic trip is provided which shifts the belt to the loose pulley as soon as the cut is completed, and a bench grinding device is furnished with each machine on which the blades may be quickly ground when dull.

The machine weighs about 450 pounds, and is manufactured by Messrs. John T.

Burr & Son, 435 Kent avenue, Brooklyn, N. Y.

A Stewart Iron Fence.

Plain and ornamental iron and wire work in fencing, gates and other shapes is in large demand today. The instances in which such products are specified are very numerous, and the manufacturers are therefore called upon to offer many varieties in design, size and weight. Among



A STEWART IRON FENCE.

the well-known iron-work manufacturers whose fencing is in large demand is the Stewart Iron Works Co., which operates an extensive plant at Cincinnati, Ohio. Herewith is presented a view of one of the company's designs in fencing. This design has proven popular for park and cemetery use. It is made with Stewart's patent three-ribbed channel fence rail, which provides extra strength and metal where both are needed.

The Chicago Quick Dumper.

The demand for some practical and serviceable equipment for hauling and dumping sand, gravel, crushed stone, cinders, etc., has steadily increased in recent years until at the present time the manufacturers of equipment of this nature are unable to supply the wants and fill their orders. The dump wagon has its place, and is a useful, convenient and labor-saving apparatus, but it does not fully take care of the wants of those who are handling construction materials exclusively.

The Chicago quick dumper is offered for this service. It is a portable dump bed which can be placed on any ordinary farm or teaming gear, and equalizes the

wagon. As it can be used on the gears which are already in service, the purchaser can complete his outfit with dump wagons at one-fourth the expenditure necessary to buy a complete apparatus.

The Black Manufacturing Co., 124-128 East Ohio street, Chicago, Ill., is the manufacturer of the Chicago quick dumper.

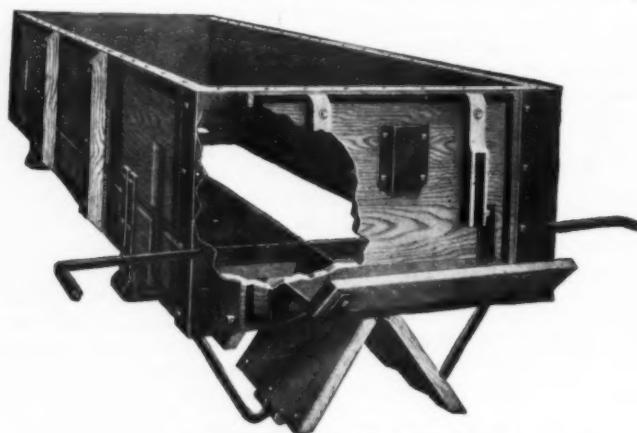
Big Sawmill at Elizabeth City.

[Special Cor. Manufacturers' Record.]
Elizabeth City, N. C., November 12.

This city of about 10,000 population lies on the Pasquotank river, about 20 miles above where it flows into Albemarle Sound, and about 25 miles below where it is joined by the Dismal Swamp canal. It is, therefore, well situated on the line between Norfolk and the sound, a position that has been of immense value to it. From the tremendous impetus recently given the lumber business in this State Elizabeth City has reaped great benefit, and is now the center of a large development along that line. Six sawmills and one door, sash and blind factory are already established and doing a big business here, while another sawmill is being constructed by the Dare Lumber Co. This mill will be supplied with all the latest improvements in the sawing and manufacturing of lumber, and will have a daily sawing capacity of 200,000 feet. Every piece of machinery in it will be driven by electricity. The building itself will be the best and most substantial of its kind in North Carolina. The mill will cost \$30,000.

The Dare Lumber Co. has recently taken over on 50 years' lease a tract of 180,000 acres of well-timbered land, the property of Col. R. E. Johnson of Washington. The land lies in Dare county. The consideration is given at \$3,000,000. The timber consists of short-leaf pine, juniper, cypress and the different kinds of gum.

Other important manufacturing plants doing business here are a cotton-yarn mill and a hosiery mill. Besides these are many of smaller size but not less general value in the building of cities. Three banks of strong financial position and excellent management furnish the "sinews



THE CHICAGO QUICK DUMPER.

weight of the load over the carrying parts. In other words, the dumper is so constructed that the gear can be coupled up very closely, and as the weight is equally distributed over the axles the combined equipment of gear and dumper not only makes a desirable dump wagon, but forms an equipment which greatly reduces the draft on the team. The dumper when placed on a gear makes a dumping apparatus that can be used to dump a load over and on top of piles of material, and the operation is simple and instantaneous, and can be easily handled by a boy. Another important feature is that this dumper can be purchased for about one-fourth of the cost of a complete dump

of war" for carrying on the industrial and commercial campaign, and a postoffice building that cost \$125,000 tells of the confidence reposed in the future of the town by the General Government.

Recently the citizens have voted a bond issue of \$40,000 for the purpose of erecting a large and modern graded school building to add to their already strong educational equipment.

The inland waterway scheme now receiving so much attention along the Atlantic coast will, when put into effect, bring this city prominently forward as a convenient shipping point for a large area of rapidly-developing country.

GEO. BYRNE.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

BRIDGES, CULVERTS, VIADUCTS

Biloxi, Miss.—Board of Supervisors of Harrison county, Gulfport, Miss., will receive plans and specifications in December for construction of drawbridge on the Tchouti-cauboufa river, probably at Morris Ferry.

Graham, Texas.—Young county, recently noted to construct two bridges across Brazos river, will award contracts November 20; company wants bridge engineer to inspect work. Geo. H. McLaren, County Judge, may be addressed.

Shepherdstown, W. Va.—A. Bruner, Roanoke, Va., is engineer in charge of erection of bridge recently noted for Norfolk & Western Railway across Potomac river from Washington county, Maryland, to Jefferson county, West Virginia; Charles L. Stevens, superintendent; David W. Flickwir, contractor; materials supplied. (For further description see Manufacturers' Record, November 14.)

St. Louis, Mo.—Manufacturers' Railway (controlled by the Anheuser-Busch Brewing Association) contemplates constructing steel viaduct 1500 feet long; carry two tracks; horizontal clearance of 21 feet. (Mentioned in September.)

Williamsport, Md.—Washington & Berkeley Bridge Co., Edward W. Byron, secretary, has awarded contract to Rhody & Miller, Harrisburg, Pa., at \$123,000 for construction of proposed bridge over the Potomac river. Structure will be built of concrete reinforced with steel; total length 1570 feet; width about 30 feet; two railway tracks, driveway and footway; 10 or more arches. Contract has been let, subject to alterations to be made in original plans, by Mason D. Pratt, engineer, Harrisburg, Pa. Company will increase capital stock from \$75,000 to \$100,000. (Recently mentioned.)

CLAYWORKING PLANTS

Blackwell, O. T.—Blackwell Brick & Tile Co. has increased capital stock from \$50,000 to \$75,000.

Cape Charles, Va.—Pocomoke Perfect Brick Co. incorporated with J. T. Daniel president,

J. R. Parsons treasurer and J. P. Butler secretary. Company will erect two-unit plant; cost of buildings and machinery, about \$50,000; daily capacity, 40,000 sand-lime brick. (See "Machinery Wanted.")

Oklahoma City, O. T.—Composite Brick & Tile Co. incorporated with \$250,000 capital stock by R. E. Brownell, Clark Braden, W. C. Burke and others.

St. Louis, Mo.—Hydraulic Press Brick Co. will erect one-story dryroom to cost \$5000; one-story machine-room to cost \$3000, and frame shelter to cost \$1250. Work will begin at once. Plant is located at 494 Manchester avenue.

Weatherford, Texas.—L. W. Christian contemplates development of fuller's-earth deposits. (See "Machinery Wanted.")

COAL MINES AND COKE OVENS

Baton Rouge, La.—Baton Rouge Coal & Towing Co., recently reported incorporated with \$50,000 capital stock, will establish coal yards and offices; will supply coal to steam-boats and plantations on Mississippi river and to manufacturing plants along river bank; all equipment supplied; president, George W. Theiss; vice-president, Charles G. Coyle, New Orleans, La.; local manager, I. Largueri.

Birmingham, Ala.—Alabama-Gulf Coal Co. incorporated with Lewis Miner, vice-president and acting president; J. M. Dewberry, treasurer, and R. D. Johnson, Jr., secretary.

Coalgate, I. T.—Coalgate Ice & Fuel Co. incorporated with \$75,000 capital stock by A. M. Snedden and J. W. Jacobs of Coalgate, and Percy Crandall, Tecumseh, O. T.

Corinth, W. Va.—Oakland Coal & Coke Co., Benjamin H. Read, president, 510 Maryland Trust Building, Baltimore, Md., will rebuild plant recently reported burned; plans not yet decided.

Grafton, W. Va.—East Grafton Coal & Coke Co. incorporated with \$150,000 capital stock by H. P. Porter, M. T. Williams, P. B. Williams, E. A. Richardson and Joe L. Stern, all of Cleveland, Ohio.

Huntington, W. Va.—Joseph E. Thropp of Earlston, Pa. (where he operates two iron furnaces with annual capacity of 225,000 tons), has purchased 200 acres of coal land in the Broad Top region of West Virginia, thus increasing his holdings to about 5000 acres, and seven openings are being developed at different points on the property; 336 coke ovens are in operation and 46 more will be completed in a few weeks. Construction of more ovens is contemplated.

Louisville, Ky.—Louisville Coal Co., recently noted to develop coal property, has main offices at Nos. 1 to 3 Woodward Building, Mt. Vernon, Ohio; president, F. S. McConnell; vice-president, M. G. Watson; secretary, Dwight E. Sapp; treasurer, J. S. McConnell; will develop 5300 acres near Louisville to a capacity of 1000 tons per day; constructing engineer, John M. Rayburn, House Building, Pittsburgh, Pa.

Montgomery, Ala.—Standard Fuel Co. has increased capital stock from \$100,000 to \$300,000.

Moundsville, W. Va.—Panama Coal Mining Co., W. G. Cronkright, president, has purchased Glen Easton Coal Co.'s property and will make improvements to plant; will construct railroad bridge, concrete piers and steel girders; will install electrical mining machinery and mine cars. (See "Machinery Wanted.")

Simpson, W. Va.—McGraw Coal Co., reported last week as organized, is developing 3000 acres of coal land, which property was mentioned some weeks ago as purchased from the Western Maryland Railroad Co. by John T. McGraw of Grafton, W. Va., and associates. Purchase included mining plant and company's stores. Present daily capacity is 500 tons, and it is understood that additional machinery will be installed to increase this to 1500 tons. Mr. McGraw is company's president. John S. Brophy of Frostburg, Md., is general manager.

CONCRETE AND CEMENT PLANTS

Okeene, O. T.—Southwestern Cement Plaster Co. incorporated with \$350,000 capital stock by E. E. Cressler, Charles Glyckherr and J. C. Fisher.

COTTON COMPRESSES AND GINS

Baird, Texas.—Farmers & Merchants' Gin, Light & Ice Co. incorporated with \$8000 capi-

tal stock by V. F. Jones, P. H. Crook and B. Graham.

Bartlett, Texas.—Fowler Bros. will rebuild cotton gin recently reported burned; work to commence about March 1.

Elberton, Ga.—L. H. Turner & Co. will erect cotton gin recently mentioned; to be built in connection with flour and grist mill; water-power to be used; size of building 100x225 feet; cost, with equipment, \$20,000 to \$40,000; manager, L. H. Turner. (See "Machinery Wanted.")

Henning, Tenn.—T. F. Scott & Sons, recently reported to rebuild burned cotton gin, will erect building; 36x58 feet; wood and iron; cost about \$5000; J. Kilbrew, engineer; 30 to 40 bales daily capacity. (See "Machinery Wanted.")

Hext (not a postoffice), O. T.—Hext Gin Co. incorporated with \$5000 capital stock by Fred Steffles, J. P. York, J. T. Briley and others, all of Erick, O. T.

ELECTRIC-LIGHT AND POWER PLANTS

Amherst, Va.—Amherst Electric Light & Power Co. incorporated with \$15,000 capital stock; will establish plant for furnishing electric light and power; no contracts yet awarded for plant or buildings; will use water, steam or gasoline power to operate plant; president, H. L. Page; vice-president, H. C. Joyner; secretary, O. V. Hanger; treasurer, J. E. Bowman. Address secretary.

Ardmore, I. T.—Arbuckle Falls Light & Power Co. incorporated with \$100,000 capital stock by Morris Sans, L. P. Adkins, F. B. McElroy and Mark Kirkpatrick to develop water-power on Falls creek in the Washita river canyon, near Ardmore, and to generate electricity.

Baldwin, Texas.—Farmers & Merchants' Gin, Light & Ice Co. incorporated by V. F. Jones and others. (See item under "Cotton Compresses and Gins.")

Clinton, O. T.—City has granted electric-light and power franchise to F. Murch, Hennessy, O. T., and contracted for 20 street lights, including a 200-candle arc light for top of water tower 200 feet high.

Columbiana, Ala.—Columbiana Light & Power Co. has engaged E. N. Cunningham, New Orleans, La., to prepare plans and specifications for installation of electric-light plant mentioned in September. When plans are prepared bids will be received on equipment for plant complete. (See "Machinery Wanted.")

El Paso, Texas.—El Paso Electric Railway Co. will repair 500-kilowatt generator in power plant recently damaged by explosion at a loss of about \$10,000.

Endl, O. T.—Endl Pump & Power Co. incorporated with \$100,000 capital stock by H. W. Sawyer, R. C. Dickinsheets, A. W. Sawyer and others.

Fayetteville, W. Va.—Fayetteville Water & Light Co. has secured 50-year franchise, arranged other preliminaries and will soon begin construction of proposed electric-light system. Company has been incorporated with \$25,000 capital stock by Joseph Hawkins and others; recently mentioned. (See item under "Water-works.")

Fort Smith, Ark.—Nelson Investment Co. incorporated with \$100,000 capital stock to construct electric-lighting plants, etc.; J. T. Nelson, president. (See item under "Mining.")

Jackson, Ala.—Jackson Light & Power Co., B. H. Warren, president, will award contract about December 1 for construction of proposed dam across Bassett's creek to develop additional power for electric-light and water-works systems. It is expected that a 35-foot head of water may be raised with a short dam and about 600 horse-power obtained. (Recently mentioned.)

Lagrange, Ga.—City will make improvements to lighting and power plant recently mentioned; 40x60-foot building will be erected; brick and tin; cost of machinery to be installed, \$2000; capacity, 250 horse-power. (See "Machinery Wanted.")

Lecompte, La.—City contemplates installing electric-light plant and invites electrical engineers, contractors and others to submit plans and specifications for power-house and complete electric-light system to cost not exceeding \$10,000; recently mentioned; J. R. Moore, Mayor. (See "Machinery Wanted")

Leesburg, Fla.—City contemplates issuing

bonds for constructing electric-light plant. Address Mayor Dozier.

Mayville, Mo.—City will vote on issuance of \$10,000 of bonds for erection of electric-light plant. Address The Mayor.

Midway, Ky.—Mr. Reid, manager of electric-light system at Versailles, Ky., will install plant and furnish Midway with electric lights. City Council has authorized the sale of franchise.

Natchez, Miss.—City contemplates installing electric-light plant for lighting streets. Address The Mayor.

Palmetto, Fla.—Manatee Light & Power Co., John A. Graham, president, Bradenton, Fla., has extended light system from Bradenton to Palmetto, across river, by cable; materials supplied. (Company was recently noted to have secured franchise.)

South Pittsburg, Tenn.—D. A. Tate has taken over municipal electric-light and power plant and will install new equipment, provide new wiring, etc. City has granted exclusive franchise for 10 years and perpetual franchise thereafter. Mr. Tate agrees to furnish city 50 50-candle-power street lights free for five years, representing a purchase price of about \$3600.

Sparks, Ga.—City has not yet employed engineer for electric-light plant and water-works recently noted to be constructed; bond issue of \$20,000 voted for combined plant; Mayor, J. S. Sirmons.

Van Buren, Ark.—Fort Smith Light & Traction Co., Fort Smith, Ark., has applied for extension of electric-light franchise in Van Buren, and proposes doubling number of street lamps.

Welaka, Fla.—Welaka Mineral Water Co. includes in its privileges construction and operation of electric-light plant; D. U. Fletcher, president, Jacksonville, Fla. (See item under "Water-works.")

Wheeling, W. Va.—Mozart Improvement Co. incorporated with \$10,000 capital stock to build and operate electric-power plants, etc., by C. M. Kirschner, H. L. Hess, Emma K. Kirschner and others.

FOUNDRY AND MACHINE PLANTS

Baltimore, Md.—Crook-Horner Company, machinist and machinery supplies, Saratoga and Howard streets, will erect addition to its building recently purchased at 17-19 East Pratt street; one story, 50x125 feet; steel frame construction; steel trussed roof; galvanized-iron exterior; tin roof. Those estimating are Chesapeake Iron Works, Bush street and B. & O. R. R.; American Bridge Co., Continental Building; E. G. Smyser & Sons Company, 214 Clay street; Dietrich Bros., 344-362 North street, and Lauer & Harper, Westport; bids to be in November 18; Ellcott & Emmart, architects, Union Trust Building. Addition will be used for pipe storage and shop.

Berkley, Va.—Norfolk Marine Railway Co. will install new machinery in plant, expending about \$10,000; Dave Howard, manager.

Birmingham, Ala.—Southern Stove Fixture Co. incorporated with \$6000 capital stock by J. S. Brown, H. W. Gregory and C. W. Harmon, Jr.

Dallas, Texas.—Ledbetter Cotton Chopper Co. incorporated by F. Rosenbaum, I. Harris and W. H. Ledbetter.

Houston, Texas.—South Texas Implement & Transfer Co. incorporated with \$12,500 capital stock by W. B. Chew, O. P. Woodburn, S. W. Besley, R. H. Spencer and others. Company will occupy warehouse erected by Frank Moore at a cost of \$30,000; three stories high, with basement, 80x100 feet; total floor space of 32,000 square feet. Mr. Spencer will be manager.

Marshall, Texas.—Marshall Car Wheel & Foundry Co., recently mentioned to rebuild plant burned at a loss of \$100,000, has awarded contract to J. C. Beeson and James Higgins for erection of main buildings; 78x250 feet and 56x280 feet; brick; steel frames; self-supporting truss roofs; covered with sheet-iron; fireproof. Several smaller buildings will be erected for warehouses and other purposes.

Parkersburg, W. Va.—Stiles Foundry & Supply Co. expects to engage in the manufacture of machinery in the near future.

Richmond, Va.—James W. Carr, manufacturer of iron settees, vases, weathervanes, ornamental iron and brass work, etc., has purchased site 24x190 feet on which to erect new and improved plant.

Waycross, Ga.—South Atlantic Car & Manufacturing Co. has authorized the bond issue of \$300,000 and increase in capital stock from \$250,000 to \$350,000, recently mentioned. It is estimated that about \$100,000 will be required to rebuild portion of plant destroyed by fire. Plans for new buildings will be considered at a meeting next week, and dimensions of structures will be about as follows: Assembling shed, 500x150 feet; forge shop, 200x100 feet; two or more paint sheds, 300x50 feet; woodworking shops, 200x100 feet, and storage-room, 100x60 feet.

ICE AND COLD-STORAGE PLANTS

Baird, Texas.—Farmers & Merchants' Gin, Light & Ice Co. incorporated by V. F. Jones and others. (See item under "Cotton Compresses and Gins.")

Baltimore, Md.—Knickerbocker Ice Co., ice manufacturer, York and William streets, has called meeting of stockholders to consider increase of capital stock by \$100,000.

Chattanooga, Tenn.—Chattanooga Packing Co. incorporated with \$25,000 capital stock to manufacture ice and operate cold-storage plant for meats by E. W. Scholze, H. A. Scholze and others.

Conalge, I. T.—Coalgate Ice & Fuel Co. incorporated with \$75,000 capital stock by A. M. Snedden and others. (See item under "Coal Mines and Coke Ovens.")

Hagerstown, Md.—Harry D. Baumgardner will establish cold-storage plant at Schleyville. (See item under "Miscellaneous Enterprises.")

Marion, S. C.—R. M. Frutticher, Georgetown, S. C., will establish ice factory in Marion.

Memphis, Tenn.—Memphis Cold Storage Co., 99-103 South Front street, had plans prepared by Alsop & Woods, Randolph Building, for cold-storage and warehouse building recently noted to be erected; nine stories; 63x235 feet; 1,000,000 cubic feet capacity; contractor, Selden-Breck Construction Co., St. Louis, Mo.; general manager, H. Moore.

New Orleans, La.—Louisiana Ice Co., recently reported incorporated with \$100,000 capital stock, will establish ice plant with 75 tons daily capacity; president, Z. A. Zilker; vice-president, L. G. Petit; secretary, W. H. McGraw; plant, St. Philip and White streets; office, 1127 Julia street.

Poteau, O. T.—Poteau Electric Light Co. will install ice plant in connection with light plant.

Raleigh, N. C.—Powell & Powell incorporated with \$25,000 capital stock to deal in ice, operate cold-storage plant, etc.; T. C. Powell, president. (See item under "Miscellaneous Enterprises.")

Shawnee, O. T.—Home Ice Co. incorporated with \$16,000 capital stock by Edward Hogan, John F. Karker, Annie Hogan and W. T. Williams.

Washington, D. C.—Swift & Co., Chicago, Ill., have purchased nine lots bounded by La M and 1st streets N. E. and Baltimore & Ohio Railroad tracks, and will erect cold-storage plant and warehouses to cost about \$300,000.

Washington, D. C.—Washington Market Co., E. R. Tinker, president, Pennsylvania avenue and 7th street N. W., has awarded contract to York Manufacturing Co., York, Pa., for ice machinery to be installed in its new plant. Contracts for the building and other mechanical equipment have not as yet been awarded. D. I. Davis, Dearborn street, Chicago, Ill., engineer in charge of plans.

Welaka, Fla.—Welaka Mineral Water Co., D. U. Fletcher, president, Jacksonville, Fla., has privilege of manufacturing ice. (See item under "Water-works.")

IRON AND STEEL PLANTS

Gadsden, Ala.—Quinn Furnace Co. has about decided to expend \$75,000 in improvements to its furnace in Gadsden with a view to placing it in operation. J. P. Marshall, superintendent, will prepare plans. (Company was mentioned in August as having awarded contract for additional machinery to increase capacity of charcoal-iron furnace.)

Oklahoma City, O. T.—Union Steel Casting Co. incorporated with \$400,000 capital stock by A. J. McMahan of Oklahoma City; Royal A. Polhamus, Guy Blanchard and Roy E. Bird, all of Chicago, Ill.

LUMBER-MANUFACTURING PLANTS

Allen, S. C.—Trexler Lumber Co. of Allen town, Pa., has purchased Sizer Lumber Co.'s sawmill plant near Allen and several sawmills near Sumter.

Arden, W. Va.—U. T. Mitchell is reported as to erect sawmill.

Arden, W. Va.—Ira and William Hoffman are reported as to erect sawmill.

Ardmore, I. T.—Kenerly-Spragins Hardware & Lumber Co. incorporated with \$100,000 capital stock to develop and deal in timber land, deal in hardware, etc., by S. J. Kenerly, J. B. Spragins and F. E. Monte.

Clinton, O. T.—Wishita Lumber Co. has increased capital stock from \$10,000 to \$50,000.

Dayton, Texas.—Dayton Lumber Co. has increased capital stock from \$100,000 to \$200,000.

Elizabeth City, N. C.—Dare Lumber Co. has purchased (at \$30,000) 180,000 acres of timber land in Dare county. It is now building mill to be operated by electricity, and it is understood will have daily output of 200,000 feet of lumber, the plant costing about \$300,000. Company is also building wharves and constructing five-mile steam railway for transferring timber from forests to water's edge and later to Elizabeth City; main offices in Binghamton, N. Y. This company's plans for mills previously detailed. (The 180,000 acres of land is in Eastern North Carolina and was recently reported sold by R. E. Johnston of Washington, D. C.)

Greenville, Fla.—Union Manufacturing Co. recently reported incorporated with \$10,000 capital stock, is successor to Greenville Manufacturing Co.; will operate planing mill and supply house-building material; president, S. H. Wade, Quitman, Ga.; secretary-treasurer, J. T. Prince.

Hattiesburg, Miss.—Basefield Lumber Co. incorporated with \$10,000 capital stock by D. J. Sutherland and E. A. Hyde.

Jansen, Ark.—Howard County Lumber Co. incorporated with \$20,000 capital stock by S. G. Richardson (president), W. F. Witherspoon, J. T. Richeson and C. W. Brown.

Liberty, Miss.—Liberty Lumber Co. incorporated with \$10,000 capital stock by W. H. Jackson, E. H. Westbrook and others.

Mangum, O. T.—Oklahoma Home Lumber Co., recently reported incorporated, has been organized to engage in retail lumber trade; capital stock, \$50,000; president, C. P. Hamilton; vice-president, L. Hawkins; secretary, J. D. Currenters; treasurer, J. Ledbetter; manager, G. H. Abernathy.

Manning, Va.—Manning Lumber Co. is reported to establish sawmills to develop timber lands along Powell's river.

Marion, S. C.—Henry Wilcox has installed shingle mill; Dennis Berry, manager.

Meadville, Miss.—W. P. Thompson will rebuild drykilns recently destroyed by fire; new plant to be operated by steam.

Melbourne, Fla.—A. P. Edge & Co., Lemon City, Fla., have purchased timber land near Melbourne and will establish mills for development.

Oakhurst, Texas.—Palmetto Lumber Co. has increased capital stock from \$200,000 to \$400,000.

Pensacola, Fla.—Williams Naval Stores Co. incorporated with \$350,000 capital stock to manufacture naval stores. T. A. Jennings, president; J. A. G. Carson, first vice-president; J. F. Dusenbury, second vice-president; H. L. Hayton, secretary-treasurer.

St. Landry Parish, La.—St. Landry Realty Co., C. F. Borah, president, has purchased 5200 acres of timber land in St. Landry parish, giving the company a total of 13,000 acres, estimated to contain about 175,000,000 feet of timber.

Wallis Station, Texas.—Wallis Lumber Co. incorporated with \$10,000 capital stock by R. W. Guyter, W. L. Guyter, F. D. Brant, D. N. Harris and others.

Winnfield, La.—Winnfield Hardwood Manufacturing Co., recently reported organized with \$50,000 capital stock, will establish circular-saw mills with capacity of 30,000 feet hardwood and pine lumber; will erect buildings to cost, with equipment, \$10,000; will also manufacture wagon and vehicle materials, handles, laths and shingles; plant to be in operation by January 1; president and general manager, C. E. Freed; vice-president, H. McGinty; secretary-treasurer, P. C. Moseley.

MINING

Arvonia, Va.—Virginia Slate Quarries Co. of Cincinnati, Ohio, has increased capital stock from \$100,000 to \$150,000 and will undertake further development of slate quarries at Arvonia; C. E. Hooven, president, and C. L. Arzeno, secretary.

Baltimore, Md.—Atlantic Graphite Co. incorporated with capital stock of \$250,000 to acquire graphite mines and operate them by Wm. P. C. Cockey, Edson M. Schryver, 82 Equitable Building, and James W. Chapman, 1163 Calvert Building.

Bartow, Fla.—Reported that T. H. Bushnell, Cleveland, Ohio, representing capitalists of that city, will develop phosphate properties near Bartow.

Burns, Tenn.—W. E. Cathey is negotiating with Eastern capitalists relative to purchase of iron-ore property, which, if concluded, will call for installation of washers and possibly construction of furnace.

Conowingo, Md.—Cecil Mineral Co., recently reported incorporated with \$10,000 capital stock, will establish mining plant near Conowingo for the production of talc, crayons and pulverized talc; buildings not decided upon; architect not engaged; engineer in charge, John W. McCauley, Baltimore, Md. Mr. McCauley is president, and Henry H. Hubner, Baltimore, secretary-treasurer; principal address, 43 Gunther Building, Baltimore, Md.

Enid, Okla.—New Century Copper Mining Co. incorporated with \$1,000,000 capital stock by Louis M. Bumstead, O. Baxter Swim, George W. Bear and others.

Floyd, Va.—Reported that the New York & Virginia Development Co., which is engaged in the development of the Toncaray copper mine, about eight miles from Floyd, has awarded contract to Louis Strom Copper Refining Co., New York, N. Y., for installation of smelter of 20 tons daily capacity to treat 20,000 tons of ore. Former company is said to be capitalized at \$2,000,000, and Colonel Dunn of New York is interested.

Fort Meade, Fla.—Charleston Mining Co. will develop additional phosphate mine.

Fort Smith, Ark.—Nelson Investment Co. incorporated with \$100,000 capital stock to develop mineral lands, drill for oil and gas, construct water-works, gas and electric lighting plants, etc.; J. T. Nelson, president; Joseph M. Spradling, vice-president; T. A. Trusty, secretary, and T. J. Wright, treasurer.

High Mill (not a postoffice), Va.—Lamb Process Copper Co. incorporated with \$30,000 capital stock to develop copper mines and timber lands; Richard Lamb, New York, N. Y., president, and Richard Lamb, Jr., of High Hill, secretary-treasurer.

New Orleans, La.—Gulf Phosphate Co. incorporated with \$100,000 capital stock to develop phosphate mines, etc., by Dr. J. R. Dillon, Richard Clarke Wilson and Dr. Brandt B. V. Dixon.

Oklahoma City, Okla.—Independent Asphalt Co. incorporated with \$1,000,000 capital stock by J. H. Knox, J. F. Walls and E. C. Milam.

Prince William County, Va.—Babbin Branch Mining Co. incorporated with \$300,000 capital stock to operate mining and manufacturing plant; P. B. Bradley, president, Boston, Mass., and J. U. Detrick, vice-president, 808 Maryland Trust Building, Baltimore, Md.

Richmond, Va.—Signal Systems—City is prepared to grant franchise for construction and operation of private burglar alarm, sprinkler supervision alarm, waste water alarm and other signal service. Address The Mayor.

Texas—Texas Kaolin Co. incorporated with \$350,000 capital stock by James E. Manner, Clarence R. Eaton, Charles D. Fullerton and Millard W. Baldwin, all reported as of Augusta, Maine.

MISCELLANEOUS CONSTRUCTION WORK

Austin, Texas.—City Council will advertise for new bids for construction of retaining wall at foot of Congress street, former contract having been invalidated. Wall will be 40 feet high, 9 feet thick at base and 3 feet thick at top. Appropriation of \$3000 has been made. C. E. Leonard, City Engineer, has prepared plans and specifications. (Recently mentioned.)

Florida—Bulkhead.—Contract will be awarded December 11 for constructing bulkhead at mouth of Apalachicola river, Florida; H. B. Ferguson, Captain, Engineers, United States Engineer Office, Montgomery, Ala. (See "Machinery Wanted.")

Galveston, Texas—Filling.—Goedhart & Bates, grade-raising contractors, have sublet about 1,000,000 cubic yards of filling in western part of Galveston to the North American Dredging Co., T. J. Barbour, director, San Francisco, Calif. Subcontract calls for placing not less than 125,000 cubic yards of filling per month.

Greenville, Miss.—Drainage.—City and Washington county have awarded contracts for construction of canal from city to Bott's bayou, for which each were recently mentioned to appropriate \$3500, as follows: Jordan Wynn at 18.9 cents per square yard for 30,000 square yards and T. S. Shieids for about 1500 square yards of earthwork. Work will be completed about February 1.

Harrisburg, Ark.—Irrigation.—Poinsett County Court will undertake drainage of about 115,000 acres of land in Poinsett county; total length of canals 87 miles; main canal to extend to Cross county line, where it will be 70 feet wide and 12 feet deep. Work of excavation will begin at once.

New Orleans, La.—Levee Construction.—Mississippi River Commission, Fourth District, 1539 Louisiana avenue, will award contract December 16 for constructing 771,600 cubic yards of levee work in Lower Tensas, Atchafalaya and Pontchartrain Levee districts; J. F. McIndoe, Major, Engineers. (See "Machinery Wanted.")

Pascagoula, Miss.—Steam Dock.—R. A. Farnsworth will erect steam dock to provide for coal supply of Pascagoula port.

Petersburg, Va.—Dam.—Preliminary work will soon begin on construction of dam in connection with Government improvements in progress for several years; dam to be between 100 and 200 feet wide at top, affording space for tracks of Atlantic Coast Line Railway and extending far enough on Petersburg side to provide for spur connection between Coast Line and Norfolk & Western railroads. From 8000 to 9000 tons of stone is estimated as required to hold earth hill for dam; dam to be 20 feet above low water; estimated cost of stone and earth hill \$60,000. In order to avoid stagnant water in harbor there will be laid through dam a flume 300 feet long and 2 feet in diameter, with iron pipe and gate valve at upper end, to provide constant supply of fresh water. This dam is part of improvements to divert course of Appomattox river and provide channel two and one-half miles long. Besides appropriation of \$200,000 for present improvements, the Government has expended about \$800,000 for other improvements in river. Atlantic Dredging Co. of Philadelphia, Pa., is contractor for this construction work, with E. W. Ritchie (treasurer) of Boston, Mass., as local manager in charge. Atlantic Coast Line Railway Co., E. B. Pleasants, chief engineer, Wilmington, N. C., will build steel superstructure; 300 feet of trestle, with five spans.

Port Lavaca, Texas—Drainage.—Farmers' Union contemplates organizing drainage district for draining lands around Port Lavaca; W. W. Maxwell, John Malone and others, committee.

Savannah, Ga.—Dredging.—Shull Contracting Co. has contract at .69 cent per cubic yard, or \$20,700, for rehandling about 300,000 cubic yards of dirt at Venus Point.

Birmingham, Ala.—Gasoline Lamps.—Armstrong Light Co. incorporated with \$5000 capital stock by J. T. Taylor, C. C. Galloway, J. K. Armstrong and W. H. Bial.

Atlanta, Ga.—Colonization.—Aurora Colony Co. incorporated with \$40,000 capital stock by J. Bascom Jones, A. A. Ericson and others.

Baltimore, Md.—Engraving and Printing Plant.—Baltimore Steel & Copper Plate Engraving Co. incorporated with capital stock of \$100,000 to manufacture steel and copper plates and dies and conduct general printing business by Gilson W. Metcalfe, 924 Light street; Gilson W. Metcalfe, 926 Light street; Arley C. Metcalfe, 926 Light street; Wm. H. Engel and Wm. F. Broening.

Barstow, Fla.—Steam Laundry.—Bartow Steam Laundry will erect building 40x60 feet; one story; sheet-iron construction; Willis & Day, proprietors. (Recently mentioned.)

Batesville, Ark.—Publishing.—I. B. Muchmore will establish newspaper printing plant.

Beaumont, Tex.—Publishing.—Oil Investors' Journal incorporated with \$30,000 capital stock by Holland S. Reavis, John R. Reavis and Burton E. Newcomb.

Birmingham, Ala.—Gasoline Lamps.—Armstrong Light Co. incorporated with \$5000 capital stock to deal in gasoline lamps; H. L. Armstrong, president and treasurer; H. H. Miller, vice-president, and M. M. Freed, secretary.

Birmingham, Ala.—Consulting Engineers, etc.—Birmingham Engineering Co. organized; offices, 918-919 Brown-Marx Building; will engage in mechanical and electrical engineering, in consulting line; new company combines the Thornton Company and Ramsay, Bowron & Perry.

Blackwell, Okla.—Oil and Gas Wells.—Bitter Creek Oil & Gas Co. incorporated with

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\$500 capital stock by J. C. Blackaby, Dave Schonwald, C. Behm and others.

Boone, N. C.—Telephone and Telegraph System.—Watauga Telephone & Telegraph Co. incorporated with \$3000 capital stock by J. C. Mast, J. H. Mast and E. F. Lovill.

Clinton, O. T.—Townspeople.—Clinton Development Co. incorporated with \$200,000 capital stock by G. W. Goodwin, A. N. Curry, E. A. Humphrey and others.

Clinton, O. T.—Townspeople.—Clinton Townsite & Investment Co. has increased capital stock from \$50,000 to \$100,000.

Colony, O. T.—Telephone System.—Colony & Carnegie Telephone Co. incorporated by James Suttles of Colony, C. S. Kern, Korn, O. T.; W. T. Matley and Frank Nelson, Roise, O. T.

Dallas, Texas—Pleasure Resort.—Sherman Interurban Railroad, J. F. Strickland, president, has purchased land at White Rock Creek, near Dallas, which will be improved as pleasure resort. Amusement features will include construction of lake by building dam across the valley of White Rock Creek, erection of theater, etc.

Decatur, Ga.—Steam Laundry.—Decatur Laundry Co. organized by A. A. Bagwell, A. K. Jones and J. T. Freeman to establish steam laundry.

El Paso, Texas—Printing Plant.—Buile Press and E. S. Rood & Co. have consolidated and will be incorporated as Buile-Rood Printing Co. Company has leased building, which will be equipped with new machinery in addition to present equipment.

Golf, O. T.—Townspeople.—Golf City Townsite Co. incorporated by R. R. Prichard of Golf, D. W. Higby and J. C. Fischer, both of Texoma, O. T.

Greenville, N. C.—Telephone System.—Southern Bell Telephone & Telegraph Co. (main offices, Atlanta, Ga.) is having plans prepared by its engineer, John R. Moore, for erection of telephone exchange and laying underground cables in business section.

Guymon, O. T.—Townspeople.—Tri-State Land & Townsite Co. incorporated with \$10,000 capital stock by W. C. Crow, C. M. Funk, J. R. McCullough and others.

Hagerstown, Md.—Abattoir.—Harry D. Baumgardner will establish abattoir and cold-storage plant at Schleyerville; one story: 20x50 feet; former to be cemented.

Hobart, O. T.—Printing and Publishing.—Hobart Republican Printing & Publishing Co. incorporated with \$15,000 capital stock by Roy Benedict, A. W. and M. A. Ralston.

Houston, Texas—Building Company.—Kiam Building Co. incorporated with \$150,000 capital stock by Ed Kiam, Alexander Kiam and S. E. Sims.

Huntington, W. Va.—Oil Wells.—Guyan Oil Co. incorporated with \$100,000 capital stock by E. B. Enslow, Frank Enslow and L. A. Staker, all of Huntington; T. B. Casey, Ashland, Ky., and W. J. Rodgers, Marietta, Ohio.

Kinder, La.—Telephone and Telegraph System.—Howell Telephone & Telegraph Co. incorporated with \$25,000 capital stock; Chas. F. Howell, president and general manager, and J. Hereford Percy, vice-president.

Kings Mountain, N. C.—Drugs.—Corner Drug Co. incorporated with \$4000 capital stock to deal in drugs by C. A. Dilling, B. R. Hunter and L. L. Froneberger.

Lagrange, Ga.—Hardware, etc.—Hanson Hardware & Furniture Co. incorporated with capital stock of \$25,000 to deal in hardware, woodenware, tinware, etc., by G. S. Hanson, A. B. Handley, J. W. Smith and O. H. White.

Lansing, W. Va.—Telephone System.—Lansing Telephone Co., reported incorporated in August, is installing telephone system with about 200 subscribers; connects with local and long-distance Bell lines; D. B. Crawford, president and manager.

Meridian, Miss.—Garbage Crematory.—City is considering plans for garbage crematory, lately noted, to be erected at cost of \$4000; engineer in charge, Walter G. Kirkpatrick, Jackson, Miss. (See "Machinery Wanted.")

Mt. Sterling, Ky.—Gas Plant.—Central Kentucky Natural Gas Co. will erect power-house at its fields in Menifee county. Structure will be of brick, stone and concrete, equipped with 10 100-horse-power engines and connected with all gas wells in the field. Company will also undertake other improvements, expending a total of about \$100,000. It is reported that lines will be extended to several other cities.

Nashville, Tenn.—Amusement Resort.—White City Amusement Co. incorporated with \$100,000 capital stock to build amusement resort at Buena Vista Springs in North Nashville by H. C. Card, Alfred T. Levine, Charles Kuhn and Pink Webb, all of Nashville; Sol Trauterman and James L.

Glass, both of Memphis. Messrs. Glass & Trauterman have contracted with the company to bring to Nashville parties who will invest about \$100,000 in attractions at the park, including scenic railways, chute-the-chutes, electric theater, etc. Mr. Trauterman and associates will install an electric horse race at a cost of \$20,000. The company will build theater, spring house, dance hall and bathhouses. It is estimated that a total of about \$125,000 will be expended. Work is expected to begin within 10 days. Mr. Glass will reside in Nashville and will be in charge.

New Orleans, La.—Electrical Contracting.—Douglas Electric Construction Co., 511 Godchaux Building, recently reported incorporated with \$25,000 capital stock, will establish electrical contracting business; president, Roydan R. Douglas; vice-president, Edwin O. Cook; secretary-treasurer, David Ettinger. (Company will not manufacture electrical appliances.)

New Orleans, La.—Coffee-roasting Mills.—Ajax Roasting Mills Co., Ltd., incorporated with \$50,000 capital stock to roast and grind coffee, deal in tea, coffee and spice; Christian G. Bosch, president; Carl Hermann Thielgstadt, vice-president, and Theodore Lehmann, secretary-treasurer.

New Orleans, La.—Suburban Development. Reported that local company, composed of E. G. Schleider, Robert Cohen, Dr. Isadore Dyer, Albert Godchaux, F. A. Longshore and others, is planning the development of tract of land including Oakland Park an residence section, and will divide the property into streets, pave sidewalks, etc.; \$300,000 is understood to be proposed capital.

New Orleans, La.—Creosoting Tanks.—American Creosoting Co. will construct five tanks for storage of creosote at Fort Chalmette, which will be made distributing point. James Stewart & Co. have contract for foundation of tanks. Creosote will be received in bulk and pumped into tanks from the slugs, instead of being handled in barrels.

Oklahoma City, O. T.—Cotton Protecting.—Southern Cotton Protecting Co. incorporated with \$1,000,000 capital stock by Henry V. Haley, R. A. Finley and R. A. Woolridge.

Oklahoma City, O. T.—Publishing.—Trade Bulletin Publishing Co. incorporated with \$4000 capital stock by W. M. Fowler, A. W. McKeand and William A. Wells.

Oklahoma City, O. T.—Oil Wells.—Standard Oil Co. of Oklahoma incorporated with \$1,250,000 capital stock by E. J. Rockefeller and L. E. Patterson of Oklahoma City; H. L. Rogers, Wewoka, I. T., and George Subby, Saginaw, Mich.

Raleigh, N. C.—Steam Laundry.—People's Laundry has purchased site on which fertilizer factory is now located and has awarded contract to M. A. Moser for remodeling the building, which will be equipped with modern machinery.

Raleigh, N. C.—Coal, Wood, etc.—Powell & Powell incorporated with \$25,000 capital stock to deal in coal, wood, ice, building supplies, operate cold-storage plant, etc., succeeding Powell & Powell; T. C. Powell, president; George Marsh, vice-president, both of Raleigh, and Repton H. Merritt, McDowellville, N. C., secretary-treasurer.

Rogers, Ark.—Printing and Publishing.—Free Press Printing & Publishing Co. incorporated with A. J. Ward president and manager; will engage in general printing and publishing.

Rome, Ga.—Fertilizers.—Rome Chemical Co., recently reported incorporated with \$10,000 capital stock by H. C. Fisher and others, has not yet elected officers. For the present will be sales company only, dealing in fertilizers, etc.

Shawnee, O. T.—Telephone System.—Shawnee-Tecumseh Telephone Co. incorporated with \$100,000 capital stock by J. W. Rubey, Homer Alexander, Harry Mead and others.

Supply, O. T.—Townspeople.—Supply Development Co. incorporated with \$10,000 capital stock by George W. Collier, Frank V. Brandom and Robert L. Vaughn.

Towson, Md.—Land Improvement.—William Park Improvement Co. incorporated by Charles H. Jones, Charles F. Reckner, John A. Mihm and others.

Shreveport, La.—Land Improvement.—Louisiana Real Estate & Development Co. incorporated with \$150,000 capital stock; H. L. Heilprin, president; C. H. Summers, vice-president; Mrs. Shropshire, secretary, and Sidney H. Florschheim, treasurer.

Shreveport, La.—Gas Pipe Line.—Caddo Gas & Oil Co. S. S. Hunter, president, will construct another gas pipe line from the Caddo field. Work will soon begin.

Sisterdale, W. Va.—Oil Wells.—Columbia Oil Co. incorporated with \$150,000 capital

stock by Thomas Chestnut, E. A. Durham, W. L. Armstrong and others.

Unicol, Tenn.—Telephone System.—Unicol Telephone Co., recently reported incorporated with \$5000 capital stock, has elected W. A. Roberto president, F. H. Hannum vice-president and R. N. McInturff secretary-treasurer. Committee has been appointed and instructed to contract for materials and proceed with construction work at once.

Villianow, Ga.—Telephone System.—Armuchee Telephone Co. incorporated with \$4000 capital stock; president, M. Gordon Keown; vice-president, Dr. J. A. Shields; treasurer, L. H. Price; manager, J. H. Ward. (See "Machinery Wanted.")

Washington, D. C.—Bottling Plant.—Schlitz Brewing Co., 615-621 D street S. W., Washington, D. C., and Milwaukee, Wis., has received bids for construction of modern bottling plant on Baltimore & Ohio Railroad tracks between R and Randolph streets.

Washington, D. C.—Steam Laundry.—Willbur F. Nash, 122 M street N. W., will erect steam-laundry plant, 1150 1st street N. W.; two stories, 56x88.6 feet; brick with stone trimmings; fireproof; slate roof; steam heating system; modern laundry machinery and equipment; cost of building about \$5000; Charles C. Galley, architect, 651 Maryland avenue N. E. James F. Broadbent, 729 20th street N. W., will own and operate the laundry plant.

Washington, N. C.—Construction.—New Era Construction Co. incorporated with \$125,000 capital stock by William Chancey, George T. Leach, A. M. Dumay and J. A. Trickett.

West Palm Beach, Fla.—Drugs.—Mercantile Drug Co. incorporated with \$5000 capital stock to deal in drugs, etc.; C. M. Merrill, president; Franklin Sheen, vice-president, and A. M. Lopez, secretary-treasurer.

White Hall, Va.—Telephone System.—White Hall Telephone Co. incorporated; L. M. Bender, president, Martinsburg, W. Va., and J. E. Ebbert of White Hall, secretary-treasurer.

Wilmington, N. C.—Laundry.—City Laundry Co., recently reported incorporated with \$75,000 capital stock, will establish steam laundry and cleaning and dyeing works. Plant will occupy the Odd Fellows' building, which will be improved; engine and boiler room will be erected in the rear. Machinery will be furnished by Troy Laundry Machinery Co., Troy, N. Y., and will be installed and ready for operation about November 25; L. B. Rogers, president and treasurer; Joseph H. Hinton, vice-president; Edgar L. Hinton, general manager, and D. J. G'Keefe, superintendent.

MISCELLANEOUS MANUFACTURING PLANTS

Americus, Ga.—Fertilizer Factory.—Americus Home Mixture Guano Co. is name of company recently mentioned organized to establish fertilizer factory, investing about \$50,000. Company is improving old cotton-compress plant by renovating and enlarging present buildings, erecting new structures where needed and installing necessary machinery, including 32-horse-power gas engine for mixing department. It is expected that plant will be ready for operation within 30 days; Roy L. Parker, general manager.

Atlanta, Ga.—Brewery.—Atlanta Brewing & Ice Co. will erect tankhouse to cost about \$2000.

Atlanta, Ga.—Bottling Works.—Benscot Lithia Spring Co. incorporated with \$100,000 capital stock and privilege of increasing to \$250,000 to sell lithia and mineral waters and manufacture ginger ale.

Baltimore, Md.—Glass-bottle Plant.—Maryland Glass Corporation, care of Emerson Drug Co., 308-312 West Lombard street, has awarded contract to McLaughlin Bros., constructing engineers, 100 East Lexington street, for construction of main factory, gas-producer building and power-house for glass-bottle plant to be located at Westport; main building, two stories, 70x134 feet; gas-producer building, two stories, 30x80 feet, and power-house, one story; brick interior; reinforced-concrete framework; steel-trussed roof; slate roofs. Mechanical equipment will include gas-producer system for glass furnaces, steam-boiler plant, engines, electric generators, air compressors and modern glass-bottle machinery. McLaughlin Bros. will purchase all machinery and equipment necessary to complete buildings ready for operation.

Birmingham, Ala.—Oil and Fertilizer Works.—Continental Oil & Fertilizer Co. has increased capital stock from \$15,000 to \$50,000.

Bristol, Va.—Chemical Products.—Bristol Ethyl & Industrial Co. incorporated with \$10,000 capital stock to manufacture ethyl and denatured alcohol and various

chemical products, by S. E. Massengill, R. H. Martin, John B. McFerrin, R. H. Smith and N. H. Massengill. Company has closed an option on distilling plant of W. H. Messimer, will install additional machinery and make other improvements preparatory to beginning operations.

Buffalo Forge, Va.—Flour Mill.—W. Long has purchased the Bunker Hill mill property and will install flour mill.

Cornelius, N. C.—Overall Factory.—Proctor Trousers Co. intends to add overall manufacturing to its present trousers factory. (See "Machinery Wanted.")

Ebenezer, Tenn.—Flour Mill.—P. S. Atchley and J. Arthur Atchley have purchased the Knoxville Roller Mill near Ebenezer and will make improvements.

Elberton, Ga.—Flour and Grist Mill.—L. H. Turner & Co. will erect flour and grist mill and cotton gin recently mentioned; building to be 100x225 feet; cost of building and equipment, \$20,000 to \$40,000; mill to be operated by water-power; L. H. Turner, manager. (See "Machinery Wanted.")

Fredericksburg, Va.—Pickle Factory.—Alert & McGuire, 66 Madison street, New York, N. Y., recently mentioned as making improvements to Fredericksburg plant, will install pulp finisher. (See "Machinery Wanted.")

Huntington, W. Va.—Shoe Factory.—Newberry Shoe Co. will establish shoe factory recently mentioned; three-story brick building will be erected: 220x40 feet; architect, F. N. Alger; managers, Jeff Newberry and U. B. Buskirk.

Kansas City, Mo.—Overall Factory.—Clevenger Overall Co. incorporated with \$30,000 capital stock by J. G. Roberts, K. C. Roberts, W. P. Cleaver and others.

Leesville, S. C.—Cottonseed-oil Mill.—Leesville Cottonseed Oil Mill Co. will not rebuild burned structure before May or June, 1908.

Little Rock, Ark.—Rice Mill.—A New Orleans capitalist will confer with Board of Trade relative to establishing rice mill in Little Rock.

Lowell, N. C.—Chemicals, etc.—The Robinson Company incorporated with \$25,000 capital stock to manufacture chemicals, etc., by Dr. Frank Robinson, J. Linwood Robinson and Mrs. Erwin Hand.

Martinsburg, W. Va.—Cannery.—Export Apple Co. incorporated with \$15,000 capital stock to grow and can fruit and vegetables; incorporators, Stuart W. Waller, J. M. Woods, W. C. Kilmer and others.

Memphis, Tenn.—Candy Factory.—Chickasaw Candy Co. incorporated with \$25,000 capital stock by L. A. McCormack, J. W. Cunningham, P. F. Crenshaw and others.

Oklahoma City, O. T.—Medicine Factory.—Liverine Medicine Co. incorporated with \$20,000 capital stock by S. W. Kerr of Oklahoma City, W. F. Shook and F. S. Kerr, Dallas, Texas.

Oklahoma City, O. T.—Lunch Cabinets.—Lunch Cabinet Manufacturing Co. incorporated with \$25,000 capital stock by A. J. McMaham of Oklahoma City, Theron T. Chamberlain, Worthington M. Lady and James A. Graves, all of Chicago, Ill.

Parkersburg, W. Va.—Paper Bottles, etc.—Parkersburg Paper Package Co., Box 288, recently noted, will establish plant for the manufacture of paper milk bottles, mailing tubes, oyster and ice-cream pails, paper pie plates: capacity, 25,000 bottles and about equal number other products per day; has rented 4000 feet floor space in Boren Building, 3d and Julian streets; machinery to equip plant to cost \$5000; Forest C. Goff, manager. (See "Machinery Wanted.")

Pulaski, Tenn.—Flour Mill.—Pulaski Cotton & Grain Co. will rebuild milling plant reported burned in September at a loss of about \$10,000.

Ridgeville, S. C.—Gas Plant.—City contemplates issuing bonds to install acetylene-gas plant. Address The Mayor.

Russellville, Ark.—Cannery.—William Cheshirefield, Guthrie, O. T., is promoting establishment of cannery at Russellville.

Shreveport, La.—Cannery.—O. Pressbrich & Co., 200 Broadway, New York, N. Y., will establish cannery reported recently; manager, O. Pressbrich, Jr.

St. Louis, Mo.—Electrical Supplies.—Security Electric Supply Co. incorporated with \$25,000 capital stock by Senter M. Jones, Roy M. Ellers and Richard Kopplin to manufacture and deal in electrical articles, etc.

St. Louis, Mo.—Clothing Factory.—Schultz Cloak & Suit Co. incorporated with \$40,000

capital stock by Max Well, Morris G. Levinson, both of St. Louis, and Samuel Schultz, Peoria, Ill.

Sumter, S. C.—Gas Works.—J. L. Alnut and associates have applied for franchise to construct gas works. It is proposed to organize company.

Tryon, N. C.—Gas Plant.—E. W. Hall, care Oak Hall Hotel, Tryon, N. C., contemplates establishment of gas plant; location not stated. (See "Machinery Wanted.")

Van Buren, Ark.—Cannery.—Reported that the Nelson Canning Co. will establish cannery in Van Buren.

Washington, D. C.—Trunk and Leather-goods Factory.—James S. Topham, manufacturer of trunks, satchels and fine leather goods, 1219 F street N. W., has commissioned Paul J. Pelz, architect, Corcoran Building, 15th and F streets N. W., to prepare plans and specifications for trunk and leather-goods factory to be erected at corner Eckington place and Q streets; two stories; 92x108 feet. Factory will have own power plant, consisting of gas engine and electric generating machinery. Modern machinery for manufacture of these products will be installed.

Wilmington, N. C.—Dalry.—Shadeland Dalry Co. Incorporated with \$50,000 capital stock by A. O. McEachern, John C. Boesch and D. McEachern.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Natchez, Miss.—Natchez & Southern Railway, C. B. Brownell, vice-president, St. Louis, Mo., is reported to build five piers at Natchez, expending a total of \$5000.

Selma, Ala.—Reported that the Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., will erect roundhouse, repair shops, water tank, turn-table, etc., at Selma.

ROAD AND STREET IMPROVEMENTS

Dallas, Texas.—City Commission awarded contract to Texas Bitulithic Co., Dallas, Texas, for paving recently mentioned.

Decatur, Ala.—City Council has authorized the construction of about seven miles of concrete sidewalks on Pon, Oak, Canal, Cain, Market and Cherry streets. (Various street improvements have been previously mentioned.) Address The Mayor.

El Paso, Texas.—Texas Bitulithic Co., Dallas, Texas, has contract for proposed paving.

Fort Worth, Texas.—City awarded contract to Texas Bitulithic Co., Dallas, Texas, for proposed paving.

Lockhart, Texas.—Caldwell County Commissioners have authorized \$15,000 of road bonds.

Mobile, Ala.—City Council has adopted fifth paving venture, which provides for paving with wood block and vitrified brick several principal streets. Provision has been made that bonds be issued for payment of work. Address The Mayor.

Providence, La.—City will pave and curb about four miles of sidewalks. Contract will be awarded December 17; T. J. Powell, Mayor. (See "Machinery Wanted.")

Washington, D. C.—District Commissioners Henry B. F. Macfarland, Henry L. West and Jay J. Morrow are considering the surfacing of the streets surrounding the new Senate and House office building with wooden blocks.

SEWER CONSTRUCTION

Dallas, Ga.—City contemplates issuing \$5000 of sewer bonds. Address The Mayor.

Newberry, S. C.—City will enlarge its sewerage system; Dr. J. K. Gilder, L. W. Floyd and Dr. James McIntosh, committee.

Norfolk, Va.—City will award contract November 23 for construction of part of sewerage system in Seventh ward; J. D. Hank, Jr., secretary Local Board; W. T. Brooke, City Engineer. (See "Machinery Wanted.")

Shelbyville, Ky.—City has awarded contract to Frank Scheffold, New Albany, Ind., for construction of sewerage system and sewage disposal plant, for which \$30,000 of bonds have been voted; Charles E. Collins, Drexel Building, Philadelphia, Pa., engineer.

Washington, D. C.—District Commissioners Henry B. F. Macfarland, Henry L. West and Jay J. Morrow will receive bids until November 25 for constructing sewers in District of Columbia. Plans and specifications can be obtained from Room 43 District Building.

TEXTILE MILLS

Ashburn, Ga.—Shingler Cotton Mills will be name of company recently reported as

proposed for organization with capital stock of \$250,000. Details will be given consideration in about 30 days. J. S. Shingler can be addressed for information.

Blackburg, S. C.—Blackburg Mills, recently mentioned as proposed, has incorporated with capital stock of \$250,000 and will build mill for manufacturing fine sheetings; Incorporators, G. Lang Anderson of Williamson, S. C.; E. F. Pell of Blacksburg, Andrew E. Moore of Gastonia, N. C.; J. C. Plonk of Cherokee Falls, S. C., and J. E. Sirrine of Greenville, S. C. Mr. Anderson will probably be manager and can be addressed. Mr. Sirrine will be engineer to plan, build and equip plant.

Bristol, Tenn.—E. P. Jones, 803 Pennsylvania avenue, is address of party lately noted as to establish knitting mill; about \$20,000 to be invested.

Butler Springs, Ala.—M. B. Lewis of Birmingham, Ala., is reported as organizing company to build cotton mill at Butler Springs.

Clinton, S. C.—Lydia Cotton Mills is reported to have awarded contract for additional looms; present equipment 22,000 spindles and 438 looms.

Concord, N. C.—Hanover Manufacturing Co., lately reported incorporated with capital stock of \$150,000, is lessee and operator of Magnolia Mills No. 1, containing 240 spindles and 40 looms; Lewis W. Brander, president.

Gastonia, N. C.—Dunn Manufacturing Co. has received plans and specifications for erection of mill building, one story high, 78x200 feet; to contain 500 spindles for manufacturing cotton yarns. Contract for brick work awarded to J. E. McAllister. Other details of this company have been stated previously. C. B. Armstrong is president.

High Point, N. C.—F. M. Pickett and W. H. Ragon are reported as organizing company to build cotton mill.

Newton, N. C.—Ridgeview Cotton Mills has plans for one-story, 79½x164-foot building, arranged with wood end for future enlargement; contract for brick work awarded to Mr. Moser of Hickory, N. C., and for wood-work to Sigma & Dealy of Newton. As previously stated, 2500 spindles will be installed for manufacturing yarns. Electricity will be motive power. About \$56,000 will be invested. H. F. Smith is general manager. Other details heretofore reported.

Paducah, Ky.—F. P. Toof, manager of Co-hankus Manufacturing Co., has purchased Dixie Mills Co. for about \$29,000 in the interest of bondholders. He will arrange for reorganizing the company and operating its knitting mill.

Spigner, Ala.—Alabama Cotton Mills, J. W. Person, superintendent, is reported as having contracted for machinery to double present equipment of 3300 spindles, 50 looms, carding machines, 200-horse-power boiler and dynamo.

Winder, Ga.—Winder Cotton Mills is reported to have awarded contract for additional new looms; present equipment 6012 spindles and 350 looms.

Winona, Miss.—Winona Cotton Mills, lately mentioned, will install additional cards after January 1; present equipment, 5000 spindles and 200 looms.

WATER-WORKS

Bay Minette, Ala.—Baldwin County Commissioners will construct water-works, etc., for courthouse. Bids will be received until December 9; J. H. H. Smith, Judge of Probate and ex-officio clerk of County Commissioners. (See "Machinery Wanted.")

Brookfield, Mo.—City has voted \$11,000 of bonds for improvement of water-works. Address The Mayor.

Colfax, La.—City will vote November 19 on issuance of about \$16,000 of bonds for construction of water-works. Address The Mayor. (Previously mentioned.)

Dallas, Texas.—City's proposed improvements to water-works will include installation of 10,000,000-gallon pumping engine, erection of new pump house, construction of reinforced concrete conduit from the Turtle creek reservoirs to the new pumping station, suction well 10x40 feet, etc. About \$150,000 will be expended in enlarging and completing pumping station and installing machinery, etc. Ordinances have been prepared providing for issuance of \$500,000 of bonds for the betterments. D. F. Sullivan, commissioner; B. R. Nelms, secretary. (Recently mentioned.)

Dallas, Ga.—City contemplates issuing \$25,000 of bonds for construction of water-works. Address The Mayor.

Eldorado, Ark.—Improvement District No. 1 will improve water-works system, as re-

cently noted; will expend \$35,000; plans not decided; engineer, M. P. Jackson; chairman, R. N. Garrett.

Fayetteville, W. Va.—Fayetteville Water & Light Co., recently mentioned as being organized, has been incorporated with \$25,000 capital stock by Joseph Hawkins and others. It is proposed to build 25-foot dam on Wolf creek about one mile from city and pump water to reservoir located on hill in west end of city. Company has secured 50-year franchise, water rights and other preliminaries have been arranged and construction work will soon begin.

Hancock, Md.—Arthur Giesler, engineer, New York and Dayton, Ohio, has completed plans and specifications for construction of proposed water-works at Hancock, for which he and Henry P. Bridges, Calvert Building, Baltimore, Md., were previously mentioned as having secured franchise. It is proposed to build reservoir on site sufficiently elevated to give a pressure of 80 pounds to the square inch and pumping station with daily capacity of about 500,000 gallons of water, which can be increased when demanded; buildings and machinery to cost about \$35,000. Hancock Water-Works Co. will be organized with \$40,000 capital stock; Mr. Giesler, president, and Mr. Bridges, secretary-treasurer. In connection with water-works franchise has also been secured to construct sanitary sewerage system, plan being to conduct sewage into the Potomac river; principal address, 1109-1119 Calvert Building, Baltimore, Md.

Patoka, Fla.—City has voted \$10,000 of bonds for completion of water-works. Address The Mayor.

Ridgeville, S. C.—City contemplates issuing bonds for construction of water-works. Address The Mayor.

Savannah, Ga.—Water-works committee of City Council, Mr. Wilkinson, chairman, contemplates engaging engineer to inspect water-works system and recommend improvements. An appropriation of \$15,000 will be asked for betterments, which will probably include sinking new wells, laying new and larger mains and improvements at pumping station; Mr. Tiedeman, Mayor.

Sparks, Ga.—City has not yet employed engineer for water-works and electric-light plant, for which bond issue of \$20,000 was recently voted; J. B. Sirmons, Mayor.

Speed's Addition (P. O. Vicksburg), Miss. City will vote December 2 on construction of water-works. Address The Mayor.

Welaka, Fla.—Welaka Mineral Water Co. incorporated with \$40,000 capital stock to sink and operate artesian well, acquire and take over franchises from town of Welaka, lay pipes, pump, distribute, bottle, etc., mineral water, manufacture ice, construct electric-light plant, water-works, etc.; D. U. Fletcher, president; Charles H. Mann, first vice-president; R. Walter Bennett, second vice-president, and Dr. A. D. Williams, secretary-treasurer, all of Jacksonville, Fla.

WOODWORKING PLANTS

Chattanooga, Tenn.—Richter Thatcher Manufacturing Co. organized by G. E. H. Richter and W. C. Thatcher to manufacture wooden bedstead specialties.

Cheraw, S. C.—Cheraw Coffin & Casket Co. incorporated with \$10,000 capital stock to manufacture coffins, caskets, etc.; E. G. Ingram, president; Dr. J. D. Ingram, vice-president, and D. L. Blackwell, secretary-treasurer.

Denison, Texas.—Proposed woodworking plant established by G. W. Pitman and others of Indiana will manufacture "D" handles of ash timber for export; capacity, 24,000 handles per week. Company contemplates installing machinery for making butter tubs, baskets and boxes; handle machinery plant has begun operation; will require one car timber daily.

Forrest City, Ark.—Forrest City Box Co. incorporated with \$50,000 capital stock by G. V. Nash, Frank Klech, E. J. Schlosser, George W. Jones, Jr., and others.

Fort Smith, Ark.—Fort Smith Refrigerator Works has increased capital stock from \$40,000 to \$100,000.

Forrest City, Ark.—Armour Packing Co., Chicago, Ill., will not establish tub factory as recently reported.

Gainesville, Texas.—Company has been organized to establish wagon factory, and the following officers have been elected: W. H. Richardson, Austin, Texas, president; F. E. Montee, Dallas, Texas, secretary and manager, and Joseph Nusbaum, Mexia, Texas, treasurer.

Greenville, Fla.—Union Manufacturing Co. recently reported incorporated with \$10,000 capital stock, is successor to Greenville Manufacturing Co.; will manufacture houses

building material and operate planing mill; S. H. Wade, Quitman, Ga., president; J. T. Prince, secretary-treasurer.

Nashville, Tenn.—Prewitt-Spurr Manufacturing Co., which operates planing mill and manufactures buckets, has increased capital stock from \$50,000 to \$100,000.

Oklahoma City, O. T.—Fowler Folding Poultry Coop Co. incorporated with \$30,000 capital stock by L. D. Fowler, I. A. Kress and J. M. Postelle.

Rome, Ga.—Manufacturers and Merchants' Association is communicating with company, capitalized at \$50,000, relative to establishment of plant for manufacturing heavy wagons.

Winnfield, La.—Winnfield Hardwood Manufacturing Co., recently reported incorporated, will erect plant to manufacture wagon and vehicle materials finished, all varieties of handles and laths and shingles; to operate in connection with sawmill to be built by January 1; C. E. Freed, president and general manager. (See item under "Lumber Manufacturing Plants" and "Machinery Wanted.")

BURNED

Abbeville, La.—Abbeville Cotton Gin & Ice Co.'s cotton gin; loss about \$500.

Abilene, Texas.—Windsor Hotel annex, owned by Henry A. Swan; loss \$6000.

Alexandria, La.—W. F. Joffron's cotton gin, located on Delmar plantation; loss \$3000.

Bay St. Louis, Miss.—Mrs. Elizabeth Feahney's store building, occupied by T. L. Evans, loss \$1500; Clifton Hotel, owned by J. C. Markey, loss \$6000; St. Joseph's Academy, loss \$45,000; Catholic church and rectory, Rev. Fathers Prendergast and Hunor in charge, loss \$25,000; Cumberland Telephone & Telegraph Co.'s exchange building, owned by Mrs. L. U. Planchet, loss \$2000; Mrs. L. U. Planchet's residence and three store buildings.

Benton, Ark.—R. E. Brent's flour mill and cotton gin; loss \$2000.

Checotah, I. T.—Missouri, Kansas & Texas Railway Co.'s freight and passenger station was not destroyed by fire, as recently reported.

Cleburne, Texas.—Santa Fe Hotel, owned by J. H. Couch.

Columbia, Miss.—A. H. Ball's sawmill; loss about \$7000.

Dublin, Ga.—J. A. Wolfe's cotton gin on R. F. D. No. 5; loss \$1500.

Elizabeth City, N. C.—John F. Hughes' store building.

El Paso, Texas.—El Paso Electric Railway Co.'s turbo-generator in power plant damaged by explosion; estimated loss about \$10,000.

Enid, O. T.—Loewen Broomcorn's warehouse, loss \$10,000; Randolph & Mehew's livery barn, loss \$15,000; Pioneer Telephone Co.'s warehouse, loss \$10,000; Volunteers of America barracks, loss about \$4000.

Fayetteville, N. C.—Fayetteville Woodware Co.'s dryhouse and sawmill; estimated loss \$6000.

Girard, Ga.—Girard Cotton & Oil Co.'s plant; loss \$30,000.

Greenville, Ala.—R. T. Shreve & Co.'s store building; loss \$8500.

Hampton, S. C.—Binnicker Hotel.

Hamburg, Ark.—Gladney Hotel.

Hawkinsville, Ga.—Poole Mercantile Co.'s store building, loss about \$20,000; Ridley & Bro.'s store building, loss \$3000.

Holland, Va.—Augustine A. Holland's sawmill; loss \$1500.

Ihrle, Miss.—H. R. Ihrle's cotton gin.

Imboden, Ark.—Kirkpatrick Lumber Co.'s building; loss \$750.

Jackson, Miss.—W. L. Hemingway's residence; loss \$15,000.

Leesville, S. C.—Leesville Cottonseed Oil Mill Co.'s cotton gin; loss \$2000.

Loch Raven, Md.—Peter Shock's blacksmith shop.

Louisville, Ky.—Wolf Bros.' wagon and blacksmith shop; loss \$1500.

McGehee, Ark.—Van Noy's Hotel, owned by Van Noy's News Co.; loss about \$20,000. Store buildings and residences owned by Abner McGehee; loss \$40,000.

Montrose, Ga.—B. F. Fuller's sawmill; loss \$4000.

Mount Pleasant, Texas.—Merchants and Planters' National Bank, loss \$8000; two buildings occupied by Fuller, Swint & Co. and owned, respectively, by F. W. Fitzpatrick and M. Lillenstein, loss \$15,000; J. M. Badt & Co.'s building, owned by Mrs. J. Beeton.

Newberry, S. C.—A. J. S. Langford's cotton gin; loss \$2500.

Newberry, S. C.—P. C. Smith's cotton gin, operated by William L. Golding; loss, exclusive of building, \$1100.

Norfolk, Va.—Willis-Smith-Crall Co.'s store building damaged; loss \$100,000.

Oakley, Tenn.—Spurrier & Williams' saw and planing mill; loss about \$150.

Pass Christian, Miss.—Woodmen of the World Lodge Building; loss \$5000.

Pine Beach, Va.—Midway Arcade was not among buildings recently destroyed by fire (incorrectly reported).

Pickens, W. Va.—Craddock Sand Co.'s plant; loss \$10,000.

Richmond, Va.—Joseph Lassiter's livery stable; loss \$5000. Building owned by Edmund Bossieux.

Samantha, Ala.—The Rope & Yarn Mills; loss \$20,000. Address George A. Searcy, president, Tuscaloosa, Ala.

Shreveport, La.—Means Machinery Co.'s plant; loss about \$40,000.

Smithsburg, Md.—Smithsburg Fruit Evaporating Co.'s plant; loss \$3000.

Spencer, N. C.—Spencer Grist Mill Co.'s plant, loss about \$10,000; Spencer Laundry Co.'s plant, loss about \$1000.

Supply, N. C.—R. W. McKeithan's sawmill and cotton gin.

Terrell, Texas.—R. C. Payne & Co.'s ice plant; building owned by Texas Brewing Co.

Thomasville, N. C.—Climax Chair Factory; loss \$16,000.

Uniontown, Ala.—Uniontown Ice Factory, owned by Ernst Bros. of New York, N. Y.

Vian, O. T.—Ford Allen Ginning Co.'s warehouse.

Washington, D. C.—Abattoir of Washington Slaughtering & Cold Storage Co. at Benning, D. C.; loss \$30,000.

Wills Point, Texas.—Simmons & Luckett's marble works.

BUILDING NOTES

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

APARTMENT-HOUSES

Chattanooga, Tenn.—L. M. LaFollette and A. Finney will erect store and apartment-house; two stories; 80x80 feet; brick.

Kansas City, Mo.—R. W. Tersch has had plans prepared by Foell Architectural Co. for erection of three apartment-houses; two stories; brick and stone; cost \$20,000.

Richmond, Va.—Mrs. M. E. Hardy will erect two apartment-houses costing \$6000; Green & Bro., contractors.

Staunton, Va.—A. E. Harnberger will expend \$8000 in construction of apartment-house recently mentioned; plans by T. J. Collins & Son; contractor, Larner & Smith; two stories with basement; 73 feet by 43 feet 6 inches; cement blocks; gas and electric lighting; materials purchased.

St. Louis, Mo.—Thomas J. Garvey has purchased two lots, each 50x150 feet, on which to erect double apartment-house.

St. Louis, Mo.—National Brewing Co. has secured permit to erect two-story store and apartment-house to cost \$11,000.

Washington, D. C.—F. W. Alexander, 301 E street N. W., will erect proposed apartment-house at northwest corner 3d and E streets N. W. by subcontracts under supervision of the architect, Matthew G. Lepley, Bond Building; six stories, 45x50 feet; brick with stone and ornamental terra-cotta trimmings; structural iron and steel; interior marble; terrazzo floors; fire escape; electric wiring and fixtures; sanitary plumbing; steam-heating system; electric elevator; cost \$40,000.

BANK AND OFFICE BUILDINGS

Decatur, Ga.—Decatur Odd Fellows' Temple Association has been organized with \$10,000 capital stock by C. B. McGinnis, J. E. Bodenhamer, M. B. Mason, J. J. Steele and others to erect two-story lodge, office and store building.

Mount Pleasant, Texas.—Merchants and Planters' National Bank will replace building recently burned at a loss of \$8000.

Paducah, Ky.—Dr. D. G. Murrell has awarded contract to Gus Lockwood to erect two-story office building. (Mentioned in September.)

Pikesville, Md.—Bank Building.—Referring to bank building to be erected by Pikesville National Bank, the following contractors are

estimating: C. C. Watts, 113 Hamilton street; Gladfelter & Chambers, 2072 Woodberry avenue; George A. Blake, Law Building, and Arthur F. West, 217 South Gilmer street, all of Baltimore, Md.; Philip Watts, Pikesville, Md., and Wm. L. Brooks; one story; brick with stone trimmings; electric wiring and fixtures; sanitary plumbing; heating system; Alfred Cookman Leach, architect, 323 North Charles street, Baltimore, Md.

Smiley, Texas.—Lovett & Cameron have awarded contract to Richter & Neumann, Gonzales, Texas, for erection of brick and concrete bank building.

CHURCHES

Knoxville, Tenn.—Rt. Rev. Thomas S. Byrne, Nashville diocese, Roman Catholic Church, has approved plans for Church of the Holy Ghost to be erected in Knoxville, and contract will probably be awarded about December 1. Edifice will be 45x86 feet; first floor to contain auditorium and vestry-rooms with 16-foot ceiling, and second floor to be used as parochial school; red Spanish tile roof; interior finished in hardwood with concrete steps and stoop; cost \$10,000. It is also proposed later to build parish-house adjoining. Rev. James Lorigan is directing the work.

Memphis, Tenn.—Idlewild Presbyterian Church has adopted plans by Jones & Furbringer for erection of edifice; site 195x113 feet; Gothic architecture; red brick; trimmings of white cut stone and heavy joints of white mortar; church auditorium seating capacity, 428; Sunday-school auditorium seating capacity, 500; cost \$35,000; Rev. W. C. Alexander, pastor; J. P. Young, chairman building committee. (Recently mentioned.)

Stringer, Miss.—Baptist Congregation has awarded contract for erection of edifice. Address The Pastor, Baptist Church.

Washington, D. C.—Trustees of Baptist Church of Congress Heights have purchased lot on Naylor road and will erect church building.

Wytheville, Va.—St. John's Episcopal Church has had plans prepared by A. E. Ellwood, Elkhart, Ind., for contemplated improvements to edifice.

COURTHOUSES

Boonville, Mo.—City has voted \$100,000 of bonds for erection of courthouse for Cooper county. Address The Mayor.

Burnsville, N. C.—H. L. Lewman & Co., Louisville, Ky., have contract at \$27,685 to erect courthouse and jail for Yancey county.

Leesville, La.—Courthouse recently noted to be erected by Police Jury of Vernon parish will be three-story brick and concrete building; 70x150 feet; fireproof; steam heating; electric lighting; cost \$38,000; architect, C. H. Page, Jr., Austin, Texas; contractor, W. C. Whitney, Beaumont, Texas. (See "Machinery Wanted.")

Ocilla, Ga.—Commissioners of Roads and Revenue of Irwin county have purchased lot 300x200 feet on which to erect courthouse, and also site on which to erect jail to cost \$18,000. Election will probably be held to vote on bonds for courthouse.

Pulaski, Tenn.—G. H. McMillion, County Judge, Pulaski, will receive bids until December 16 for erection of two-story and basement brick and stone fireproof courthouse; certified check \$500, payable to order of G. H. McMillion. Plans and specifications may be obtained from B. B. Smith, architect, 232 Perry street, Montgomery, Ala. Giles County Courthouse Building Commission reserves usual rights. (Previously mentioned.)

DWELLINGS

Asheville, N. C.—H. E. Barnard, Weaverville, N. C., will rebuild residence recently burned; cost about \$3500; architect not stated; as proposed, building will be of frame; nine rooms and basement; hot-air heating; electric lighting; bids to be opened about April 1. Address W. O. Barnard, care of Southern Express Co., Asheville.

Baltimore, Md.—Joseph H. Pentz, builder, 211 St. Paul street, will erect 22 two-story brick dwellings on Guilford and Huntingdon avenues and 25th street, to cost about \$55,000. Electric wiring and fixtures, sanitary plumbing and heating systems will be installed; Jacob F. Gerwig, architect, Hoffman Building, 11 East Lexington street.

Baltimore, Md.—Richard H. Burdette, builder, will erect 23 two-story brick dwellings with modern conveniences on Lombard street, between Catharine street and Garrison lane, to cost about \$30,000; Jacob F. Gerwig, architect, Hoffman Building, 11 East Lexington street.

Baltimore, Md.—Thomas B. Stanfield & Son, 109 Clay street, will erect seven frame dwellings with modern conveniences on Park Heights avenue, to cost about \$60,000.

Baltimore, Md.—P. C. Mueller Building Co., Montford avenue and Oliver street, will erect 28 two-story brick dwellings on lot bounded by Canton and Foster avenues and 3d and 4th streets.

Baltimore, Md.—Walter I. Westphal, builder, 1700 North Bond street, will erect 60 two-story brick dwellings with modern conveniences on Hare street between Lafayette and Fairmount avenues, to cost \$60,000.

Baltimore, Md.—Henry E. Cook, builder, 537 East Monument street, will erect 12 dwellings at southwest corner of Calvert and 28th streets; three stories; brick with stone trimmings; electric wiring and fixtures; sanitary plumbing; heating systems; cost about \$30,000.

Baltimore, Md.—Edward J. Gallagher, 2407 Fairmount avenue, will erect 17 two-story brick dwellings on Luzerne street between Monument and Madison streets, to cost \$30,000.

Baltimore, Md.—Wm. H. Waltz of the Baltimore Sash & Door Co., southeast corner Howard and West streets, will erect four two-and-one-half-story frame dwellings with electric wiring and fixtures, sanitary plumbing and steam-heating systems at Walbrook.

Dallas, Texas.—Dr. J. H. Dean, 532 Wilson Building, will let contract about December 15 for erection of dwelling recently mentioned; plans by Lang & Winchell, Wilson Building; two stories; eight rooms and bath; frame; mill construction; hot-air or steam heat; gas and electric lighting; cost \$6000.

Durham, N. C.—Mrs. John R. Proctor's residence, recently noted to be erected, will be 10-room building, with gas and electric lighting; cost \$8000; R. E. Wilkerson, architect and contractor. (See "Machinery Wanted.")

Norfolk, Va.—Dr. W. B. Ashburn has purchased site at \$4500 on which to erect residence.

Oakland, Mo.—Mrs. Frank S. Parker, 705 Chestnut street, St. Louis, Mo., awarded contract to T. P. Bethel, St. Louis, for erection of proposed dwelling; plans by L. W. Ewald; 20x34 feet; hot-water or steam vacuum heating; gas and electric lighting; contract for heating not let; cost of building, \$1000.

Rock Hill, S. C.—Hamilton Carhart will erect two-story residence.

Spartanburg, S. C.—Rev. S. A. Nettles will erect two residences costing \$2500 each; P. T. Lemaster, contractor.

St. Louis, Mo.—Margaret E. Kehoe has purchased site 50x185 feet on which to erect residence.

St. Louis, Mo.—Leisner Realty & Building Co. has purchased site 200x170 feet on which to erect eight residences costing \$24,000.

St. Louis, Mo.—B. Schultz has purchased site 25x130 feet on which to erect residence.

St. Petersburg, Fla.—G. W. Gott (late of Stonington, Maine) will erect residence.

St. Petersburg, Fla.—C. H. Rider will erect residence.

Washington, D. C.—John W. Glennan, Warder Building, has awarded contract to E. J. Le Lacy, 523 9th street N. W., for construction of five two-story brick dwellings at 2023-2031 5th street N. W., to cost \$10,000.

Washington, D. C.—Charles Sonne, 1120 Park road N. W., awarded contract to Wm. C. Blundon, 30 Quincy street N. W., for construction of three three-story brick dwellings with hot-water heating systems at 1428-1432 Euclid avenue N. W., to cost \$20,000.

Washington, D. C.—Kennedy & Davis Company, builders, 1413 G street N. W., will erect nine two-story brick dwellings with hot-air heating systems at 1422-1434 Ames place N. E., to cost \$25,000; A. H. Sonnenman, architect, 1413 G street N. W.

Washington, D. C.—Mrs. W. E. Clarke awarded contract to Wm. P. Lipscomb & Co., 1405 F street N. W., for construction of dwelling at 2128 Wyoming avenue N. W., three stories; brick with stone trimmings; tile roof; electric wiring and fixtures; sanitary plumbing; hot-water heating system; cost \$23,000; Appleton P. Clarke, Jr., architect, 606 F street N. W.

Washington, D. C.—Mrs. Norman Williams awarded contract to John H. Nolan, 1413 G street N. W., for construction of dwelling at 1227 16th street N. W.; four stories and basement, 35x75 feet; Indiana limestone exterior; tin roof; interior marble and tile work; electric wiring and fixtures; sanitary plumbing; hot-water heating system; cost \$60,000; Wyeth & Cresson, architects, 1517 H street N. W.

Washington, D. C.—John B. Henderson, 1601 Florida avenue N. W., has awarded contract to George A. Fuller Co., Munsey Building, for construction of two dwellings at 2220 and 2222 16th street N. W.; four stories, 25x100 feet and 35x88 feet; white-marble bases and white cement exterior with ornamental terra-cotta trimmings; tile roofs; modern conveniences; cost about \$120,000; George Oakley Totten, Jr., architect, 908 17th street N. W.

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HOTELS

Collins, Miss.—Collins Hotel will erect brick building equipped with water, steam heat and electric lights to replace structure recently burned.

Excelsior Springs, Mo.—Elms Realty Co., E. J. Becker, secretary, has had plans prepared by Louis Curtis, Kansas City, Mo., for erection of hotel; four stories; three wings 200 feet long; gas and electricity; cost \$225,000.

Fort Smith, Ark.—Dr. W. W. Bailey has awarded contract to W. F. May at \$32,000 for improvements to the Main Hotel, according to plans by W. H. Blakely. (Recently mentioned.)

Fort Worth, Texas.—A. W. Rieve, Liggett Building, St. Louis, Mo., is preparing plans for hotel and opera-house at Fort Worth; eight stories; cost \$100,000.

Frederick, Md.—D. Lowenstein and Chas. Wertheimer have not engaged architect to prepare plans for improvements to hotel recently mentioned. Remodeled structure will have new steam plant, gas and electric lighting and passenger elevator; cost of improvements, \$25,000; E. B. McCahan, lessee.

Landrum, S. C.—Landrum Hotel & Improvement Co., recently reported incorporated by J. S. Carpenter and others, will erect hotel; cost, \$5000 to \$7000; contractor, H. A. Morgan; three-story; 40x63 feet; brick foundation; pebble-dash; tin shingles.

St. Louis, Mo.—Planters' Hotel Co. has leased the Planters' Hotel and will expand same by \$50,000 in improvements; A. B. Gaines, president.

Washington, D. C.—Louis B. Winston, 2315 E street N. W., awarded contract to Henry Schneider, 1607 New Jersey avenue N. W., for general alterations to four-story hotel building at 222 3d street N. W., and construction of three-story addition 14x31 feet; cost \$8000. Sanitary plumbing and heating system will be installed; Poynton & Webster, architects, 911 French street N. W.

MISCELLANEOUS STRUCTURES

Atlanta, Ga.—Business Building.—A. G. Rhodes has purchased site with frontage of 79 feet on which to erect business building; double basement; six stories above ground.

Berkeley, Va.—Business Building.—J. Steinberg will erect business building; brick, three stories; 50x80 feet; cost about \$8000.

Charlotte, N. C.—Sanatorium.—Charlotte Sanatorium, for which Frank P. Milburn & Co., Home Life Building, Washington, D. C., were recently noted to have prepared plans, will be erected at cost of \$60,000; day labor construction; fireproof; steam heating; electric lighting; electric elevator.

Chattanooga, Tenn.—Store Building.—W. W. Hooper, University of Chattanooga, will erect four-story brick store building to cost \$3500. W. B. Etheridge is superintending construction.

Chattanooga, Tenn.—Convent.—Dominican Sisters have had plans prepared by Bearden & Foreman for erection of convent; brick and stone; three stories; first floor will contain laundry, office and storerooms; second floor, chapel, etc.; third floor, hospital ward, etc. Construction work will soon begin.

Collins, Miss.—Store Building.—Doyle Kerwin will replace structure recently burned.

Collins, Miss.—Mercantile Building.—Williamsburg Drug Co. will erect brick building, possibly two or more stories high, to replace structure recently burned.

Crossett, Ark.—Hospital.—Crossett Lumber Co., E. S. Crossett, president, has had plans prepared for erection of hospital to accommodate about 30 patients and cost between \$12,000 and \$15,000.

Dallas, Texas—Science Building.—Baptist Memorial Sanitarium, recently mentioned, will be 55x90 feet; mill construction; steam heat; electric lighting; freight elevator; cost \$30,000; architect, C. W. Bulger & Son; contractor, J. W. Slaughter Construction Co.

Durham, N. C.—Business Building.—W. P. Clements awarded contract to H. L. Smith for erection of business building recently mentioned; 25x35 feet; ordinary construction; gas and electric lighting; hand-power elevator; cost \$4500. (See "Machinery Wanted.")

Grafton, W. Va.—Skating Rink.—City Skating & Amusement Parlors organized and will contract for amusement hall to cost about \$2500; skating rink, 75x90 feet.

Greensboro, N. C.—Store Building.—C. W. Jennings has not completed plans for store building recently noted to be erected adjoining building now nearing completion. As proposed, structure will be two stories; to contain hall with 600 or 700 seating capacity; 42x90 feet.

Greensboro, N. C.—Auditorium.—Chamber of Commerce committee, recently noted to be arranging for erection of auditorium, has not yet engaged architect; as proposed, building will be three stories; brick; about 100x150 feet; masonry construction; seating capacity, from 7000 to 10,000; steam heat; gas and electric lighting; cost, \$40,000 to \$50,000; T. J. Murphy, chairman of committee.

Greenwood, S. C.—Masonic Temple.—Masonic Temple Co. will erect building, as recently noted; cost, \$18,000; plans by Wilson, Sompayrac & Urquhart; contractors, Grandy & Jordan; three-story; brick and stone; 46x110 feet; store on first floor, offices second and lodgerooms on third; ordinary construction; steam heat; electric lighting. (See "Machinery Wanted.")

Huntsville, Texas—Lodge Building.—Forest Lodge, No. 19, A. and A. M., has not let contract for lodge building recently mentioned; two stories; brick; 60x55 feet; medium fireproof; electric chandeliers; plans by C. H. Page & Bro., Austin, Texas.

Kansas City, Mo.—Store Building.—Eli Meyer and M. C. Simons are having plans prepared by H. Wilson, Chicago, Ill., for erection of mercantile building to cost \$700,000.

Mount Pleasant, Texas—Store Building.—F. W. Fitzpatrick and M. Lillenstein will replace buildings (occupied by Fuller, Swint & Co.) recently burned.

Nashville, Tenn.—Hospital.—Woman's Hospital contemplates erecting addition to hospital containing about 50 rooms.

Oklahoma City, O. T.—Library.—Carnegie Library Board, Charles Edward Johnson, president, contemplates erecting library to cost about \$75,000.

Reisterstown, Md.—Hospital.—Jewish Home for Consumptives, Albert A. Brager, chairman of building committee, Eutaw and Saratoga streets, Baltimore, Md., has awarded contract to Thomas P. Johns, 405 McCulloh street, Baltimore, Md., for construction of hospital building; three stories; 57x153 feet; brick, stone and stucco construction; electric wiring and fixtures; sanitary plumbing; heating system; cost \$25,000; C. M. Anderson, architect, 224 North Charles street, Baltimore, Md., and Penniman & Fairley, engineers, Gay and Water streets, Baltimore, Md.

Sherman, Texas—Y. M. C. A. Building.—Bids will be received until November 30 for brick, stone, concrete, iron and carpenter work on Young Men's Christian Association building according to plans and specifications by John Tulloch, architect, 28 Linx Annex; plans and specifications on file in office of architect; usual rights reserved; George A. Shipp, general secretary.

St. Louis, Mo.—Store Building.—Aberdeen Investment Co. will erect six-story department-store building.

St. Louis, Mo.—Clubhouse.—Southern Society of St. Louis, Murray Carlton, president, contemplates erecting clubhouse at a cost of \$150,000.

St. Louis, Mo.—Store Building.—Barada-Giles Real Estate Co., agent, has had plans prepared by H. W. Powers, 620 Chestnut street, for three-story store building 84x60 feet; steam-heating plant; gas and electric lighting; electric elevator; cost \$30,000.

Towson, Md.—Hospital.—Maryland Hospital for Consumptives, Eudowood, near Towson, has been offered \$25,000 for construction of building for advanced cases; Dr. Henry Barton Jacobs, 11 West Mt. Vernon place, Baltimore, Md., is president of the hospital.

Washington, D. C.—Stable.—Thomas H. Melton, 19 T street N. W., was lowest bidder for construction of stable at Bryant and College streets N. W. for District Commissioners; two stories; 36x168 feet; brick with stone trimmings; slate roof; stalls for 36 horses; Wood, Donn & Deming, architects, 808 17th street N. W. Building will be erected under supervision of Snowden Ashford, Inspector of Buildings, District Building.

Washington, D. C.—Store Building.—Mary C. Casson has awarded contract to W. H. Abbott, 1112 Park place N. E., for construction of two-story store building, 49x62 feet, with hot-water heating system and two-story stable, 36x17 feet, at 1234 North Capitol street to cost \$17,000; N. T. Haller Company, architect, Corcoran Building.

Washington, D. C.—Cement Shed.—District Commissioners have awarded contract to Thomas H. Melton, 621 F street N. W., for construction of cement shed on D street, between 12th and 14th streets S. W., at his bid of \$7995. Work will be done under supervision of Inspector of Buildings Snowden Ashford, District Building.

Washington, D. C.—Store Building.—F. H. Smith Company, 1408 New York avenue N. W., will erect as agent one-story brick store with modern conveniences at 2502 14th street N. W. B. F. Meyers, architect, Bond Building, is now taking bids on construction.

MUNICIPAL BUILDINGS

Austin, Texas.—City Council has appropriated \$10,000 to continue work on City Hall. Address The Mayor.

Savannah, Ga.—Fire Station.—Mr. Ballantine, superintendent of fire department, has recommended to Mayor Tiedeman an appropriation of \$10,000 for erection of fire station in Collinsville.

Washington, D. C.—Fire-engine and Truck House.—District Commissioners Henry B. F. Macfarland, Henry L. West and Jay J. Morrow will receive bids until November 20 for construction of engine and truck house on Lanier place, between Ontario and Adams Mill roads; two stories; brick with stone trimmings; modern conveniences. Plans and specifications can be obtained from Room No. 43 District Building; Appleton P. Clarke, Jr., architect, 605 F street N. W. Work will be done under supervision of Inspector of Buildings Snowden Ashford.

Washington, D. C.—Fire-engine House.—District Commissioners Henry B. F. Macfarland, Henry L. West and Jay J. Morrow will receive bids until November 20 for construction of fire-engine house at 22d and Evans streets, Langdon; two stories; 28x32 feet; brick with stone trimmings; modern conveniences. Plans and specifications can be obtained from Room No. 43 District Building; Appleton P. Clarke, Jr., architect, 605 F street N. W. Work will be done under supervision of Inspector of Buildings Snowden Ashford.

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Wanapitei, La.—Kansas City Southern Railway, A. F. Rust, resident engineer, Kansas City, Mo., is inviting bids for erection of freight and passenger station in Wanapitei.

Hattiesburg, Miss.—New Orleans & Northeastern Railroad Co. is perfecting arrangements for erection of proposed passenger station in Hattiesburg; Frank P. Milburn & Co., Home Life Building, Washington, D. C., architects; James C. Haugh, resident engineer, New Orleans, La. (Previously mentioned.)

Oklahoma City, O. T.—Chicago, Rock Island & Pacific Railway, J. B. Berry, chief engineer, Chicago, Ill., and St. Louis & San Francisco Railroad, J. F. Hinckley, chief engineer, St. Louis, Mo., will erect union station in Oklahoma City; pressed brick and stone; electric-light fixtures; cost about \$300,000. Robert Mee has contract to remove 11 houses located on the property, and excavation will begin within about 60 days.

Texarkana, Ark.—St. Louis, Iron Mountain & Southern Railway, James W. Way, consulting engineer, St. Louis, Mo., and Texas & Pacific Railway, B. S. Wathen, chief engineer, Dallas, Texas, are reported as planning to expend about \$65,000 in enlarging Union Depot. St. Louis & Southwestern Railway will also use the station when completed.

SCHOOLS

Beaumont, Texas.—Herman Weber and R. L. Morris have contract at \$18,139 to erect South Park school building; two stories; brick; eight rooms; assembly room, 80x76 feet; H. C. Mauer, architect. Bond issue of \$23,000 has been voted.

Beaumont, Texas.—Bids will be opened December 6 for erecting two-story brick school building; certified check, \$300. Plans and specifications can be obtained from G. O. B. Millard, president School Board, or F. W. Steinman, architect, Junker Building.

Brunswick, Ga.—Board of Education has appointed committee to secure estimates and plans for erection of school building for Glynn county, to cost about \$40,000.

College Station, Texas.—Agricultural and Mechanical College has awarded contract to Stevenson-Kenyon Contracting Co., Dallas, Texas, for erection of proposed dormitory to Goodwin Hall, and to C. E. Jenkins, Dallas, Texas, for proposed natatorium and veterinary hospital. Dormitory will be of brick; three stories and basement; 62 rooms; slate roof; cost about \$50,000; bathhouse, 41x68 feet; 32 shower-baths provided with hot and cold water; cement floors; veterinary hospital, 136x36 feet. Total cost will be

about \$60,000; C. E. Andrews, secretary. (Further details recently mentioned.)

Conway, Ark.—State Normal Board, J. J. Doyne, president, Little Rock, Ark., has adopted plans by Charles L. Thompson, Little Rock, Ark., for erection of main building for State Normal School at Conway, and sketches of ground plans for nine other buildings to be erected. Main structure will be two stories high, with basement; 158x67 feet; stone and pressed brick; cost \$40,000. Architect has been instructed to prepare plans and specifications for main building in detail. When completed, bids for construction will be opened. (Board was recently mentioned as contemplating an early expenditure of \$65,000.)

Dallas, Texas.—School Board will provide for erection of school building in Fair Park district.

Erwin, Tenn.—Unaka Academy will probably spend about \$10,000 in erection of two buildings; A. R. Brown, president, and G. S. McNabb, secretary.

Hanover, Va.—School Board has engaged W. H. Hair to prepare plans for proposed school building; contract to be let about December 1; brick building; ordinary construction; 50x100 feet; steam heat; cost \$7000; chairman building committee, Aaron Russ. (See "Machinery Wanted.")

Hoxie, Ark.—George R. Mann, architect, Little Rock, Ark., will open bids December 2 for erection of school building in Hoxie. Plans can be seen at office of John Gibson at Hoxie or of Mr. Mann at Little Rock; certified check, \$250, payable to Hoxie School Board.

Kanapolis (P. O. at Concord), N. C.—Carrabassett County Board of Education and the Cannon Manufacturing Co. will erect school building; six classrooms, etc.; brick; cost \$4500.

Mansfield, La.—Building committee of Mansfield High School has conditionally accepted bid of Randolph & Goslin, Ruston, La., at \$17,401 for erection of school building.

Millersburg, Ky.—Millersburg Female College, Rev. C. C. Fisher, superintendent, will rebuild structure reported burned in October; several architects now preparing plans.

As proposed, building will be three-story brick, with accommodation for 100 boarding pupils and same number day pupils; probably steam heating; acetylene-gas or electric lighting; hand-power elevator; laundry; water-works system, to draw from wells and cisterns; cost, \$25,000 to \$35,000; bids to be opened between December 15 and January 15.

Rosebud, Texas.—City has voted \$20,000 of bonds for erection of school building. Address The Mayor.

St. Louis, Mo.—Board of Education has adopted report submitted by F. Louis Soldan, Superintendent of Schools, appropriating \$12,000 for erection of school building.

St. Louis, Mo.—Contract for erection of proposed school building on Union boulevard will not be awarded until the first of the year. Structure will be of Bedford stone and contain 92 rooms, including auditorium with seating capacity of 2000. Heating plant and boiler-room will be located in wing; cost about \$750,000. Plans for the structure, prepared by William B. Ittner, recently mentioned as having been adopted by Board of Education, will be examined by Charles Gaylor, City Engineer, who will make suggestions and changes. George R. Lockwood, C. M. Woodward and others compose Board of Education.

Washington, D. C.—District Commissioners Henry B. F. Macfarland, Henry L. West and Jay J. Morrow will receive bids until November 23 for construction of four-room addition to Emory School at corner Lincoln avenue and Prospect street N. E. Plans and specifications can be obtained from Room No. 43, District Building.

Washington, D. C.—Joseph H. Gibbons, 1311 North Carolina avenue, was lowest bidder at his bid of \$22,993 for construction of six-room addition to Langdon School at 20th and Franklin streets N. E. Work will be done under supervision of Inspector of Buildings Snowden Ashford, District Building.

Washington, D. C.—Robert T. Humphrey, 912 H street N. E., was lowest bidder at his bid of \$45,650 for the construction of McCormick School at northwest corner 4th and M streets N. E.; two stories; brick with stone trimmings; structural iron and steel; terrazzo floors; heating and ventilating system; sanitary plumbing; slate and tile roof; Harding & Upman, architects, 729 15th street N. W. Work will be done under supervision of Inspector of Buildings Snowden Ashford, District Building.

Washington, D. C.—Theatre.—Theatre will be let in December for the proposed Ballinger & Abilene Railroad, 54 miles long, to connect the two points named. C. A. Doose, president of the First National Bank of Ballinger, and others are interested as heretofore reported.

Bessemer, Ala.—The Atlanta, Birmingham & Atlantic Railway, it is reported, will let contracts immediately to build that part of its line between Bessemer and Birmingham, Ala., including 12 miles of main line and two railroad yards. Alexander Bonnyman is chief engineer at the Empire Building, Atlanta, Ga. The company, it is further reported, has completed construction as far as Talladega, Ala.

Bon Air, Tenn.—The Nashville, Chattanooga & St. Louis Railway is reported to be building

track, 20 Clay street, to prepare plans and specifications for theater; three stories; steel and reinforced concrete construction; fireproof; modern conveniences.

Memphis, Tenn.—Martin Beck, general manager Orpheum Theater Co., may be addressed at St. James Building, New York, N. Y., relative to \$20,000 improvements recently noted to be made to Grand Opera House; installation of electrical fixtures, opera chairs, etc. Will R. Winch is local manager.

Rockingham, N. C.—Rockingham Development Co., W. C. Leak, president, will erect opera-house at a cost of \$25,000.

WAREHOUSES

Baltimore, Md.—Daniel Miller Company, 28-32 Hopkins place, has awarded contract to McLaughlin Bros., 109 East Lexington street, for construction of two additional stories on seven-story reinforced-concrete warehouse in course of erection at 32 Hopkins place and extending through to Liberty street; additional cost, \$20,000; Wyatt & Notting, architects, Keyser Building, German and Calvert streets.

Baltimore, Md.—Vincent Pipitone, 110-112 East Lombard street, will erect warehouse on Grant near Water street; three stories; 36x46 feet; brick with stone trimmings; structural iron and steel; modern conveniences. J. J. O'Connor, 427 East Lexington street, is estimating on construction; Silvio Tos, architect, 410 North Gilmore street.

Burgaw, N. C.—C. C. Moore, Newbern, N. C., is promoting movements for erection of cotton warehouses at Burgaw, Wallace, Magnolia, Warsaw, Faison, Mt. Olive, Maysville, Pollocksville and Trenton, N. C.

Cushman, Ark.—Farmers' Union Warehouse Co. incorporated with \$1500 capital stock by R. A. Frazier (president), W. T. Dobson, T. A. Rowe, B. F. Miller and others.

Hamburg, Ark.—Ashley County Farmers' Union Warehouse Co. incorporated with \$4000 capital stock by R. C. Drew, H. C. White, E. G. Callaway and others.

Huntsville, Texas.—Walker County Farmers' Union Cotton Warehouse Co. incorporated with \$4500 capital stock by Clarence Alexander, J. F. Rhodes, Ed Alexander, J. H. Kolb and others.

Oklahoma City, O. T.—Carothers Warehouse Building Co. incorporated with \$30,000 capital stock by H. Dial, C. E. Gresham and W. A. Carothers.

Parsons, Tenn.—Decatur County Farmers' Union, J. F. Houston, secretary-treasurer, will erect cotton warehouse at or near Parsons, and has appointed building committee consisting of Mr. Houston, G. S. Barry, C. B. Scott and others.

Washington, D. C.—James G. Bowen, 627 New York avenue N. W., awarded contract to Samuel H. Edmondston, 611 G street N. W., for construction of warehouse at 632 L street N. W.; four stories; 25x123 feet; brick with stone trimmings; slate roof; elevator; cost \$12,000.

RAILROAD CONSTRUCTION

RAILWAYS

Anderson, S. C.—The Anderson Traction Co. has, it is reported, negotiated a loan with the National Loan and Exchange Bank of Anderson to complete its line connecting Anderson, Belton and Greenville, S. C.

Asheville, N. C.—The Manufacturers' Record is informed that the plan is financed for a railroad from Knoxville, Tenn., to Greenville, S. C., connecting Rutherfordton, Waynesville and other points in North Carolina. Construction contracts have been let and bonded and work is to begin when the money market is normal. S. A. Jones of Waynesville, N. C., and others are interested in this line, generally known as the Appalachian Interurban Railway.

Ballinger, Texas.—W. J. McDaniel, chief engineer, is reported as saying that contracts will be let in December for the proposed Ballinger & Abilene Railroad, 54 miles long, to connect the two points named. C. A. Doose, president of the First National Bank of Ballinger, and others are interested as heretofore reported.

Bessemer, Ala.—The Atlanta, Birmingham & Atlantic Railway, it is reported, will let contracts immediately to build that part of its line between Bessemer and Birmingham, Ala., including 12 miles of main line and two railroad yards. Alexander Bonnyman is chief engineer at the Empire Building, Atlanta, Ga. The company, it is further reported, has completed construction as far as Talladega, Ala.

Bon Air, Tenn.—The Nashville, Chattanooga & St. Louis Railway is reported to be building

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ing three new mining spurs in the Bon Air district, one from Coalmont to Pryors Ridge, 10 miles; another from Eastland and another from Ravens Croft. Terminals are being built at De Rosett. Hunter McDonald is chief engineer at Nashville, Tenn.

Bristol, Tenn.—F. H. Cochran, chief engineer of the Bristol & Kingsport Railway, recently incorporated, has begun survey for the proposed line, which will be about 25 miles long.

Cairo, W. Va.—The Manufacturers' Record is informed that the Cairo & Kanawha Railway may possibly build next year an extension of eight miles from Macfarland to Smithville.

Cleburne, Texas.—The Gulf, Colorado & Santa Fe Railway, it is reported, proposes to build a new short line from Cleburne via Waco to Cameron, Texas, about 110 miles. C. F. W. Feit is chief engineer at Galveston, Texas.

Covington, La.—Work has begun on clearing the right of way for the proposed electric line of the St. Tammany & New Orleans Railroad Co., to connect Covington, Abita Springs and Mandeville. Preston Herndon is chief engineer.

Cumnock, N. C.—An official letter to the Manufacturers' Record says that the Raleigh & Western Railway, eight miles long, from Colon to Cumnock, N. C., has changed hands and will be extended and improved. The new officers are Edward W. Shedd of Carthage, N. C., president; Al Legler, Jr., secretary; J. Herbert Shedd, treasurer; C. C. Yates, superintendent; A. Legler, industrial agent, all of Cumnock, N. C. These gentlemen are also concerned in the Randolph & Cumberland Railway.

Durant, O. T.—The Red River Railway Co., lately incorporated, has decided to begin survey immediately for its proposed line from Oklahoma City to Bonham, Texas, 250 miles. George F. Robertson of Atoka, I. T., secretary of the company, is reported as saying that construction will begin by January 1. The other officers are J. W. Hocker of Purcell, I. T., president; F. P. Kibbey of Byars, I. T., vice-president; S. C. Hawk of Lexington, treasurer.

Excelsior Springs, Mo.—Dr. G. P. Lingenfelder, president of the St. Joseph, Excelsior Springs & Lexington Railway Co., is reported as saying that contracts for construction will probably be let about January 1 for the proposed line of six miles from Excelsior Springs to Vibbard, Mo. Edgar Main is chief engineer at Liberty, Mo. President Lingenfelder's address is Drawer 3737, Denver, Col.

Fort Smith, Ark.—The Nelson Investment Co., capital \$100,000, is reported organized to build an interurban electric railway from Fort Smith to West Fort Smith, about 10 miles; president, J. T. Nelson; vice-president, Joseph M. Spradling; secretary, T. A. Trusty; treasurer, T. J. Wright. Other directors are C. E. Speer, W. J. Echols, F. A. Handlin, J. F. Boyer and C. C. Nelson.

Greenwood, S. C.—The Greenwood & Sassafras Railway is grading two miles of line out of Greenwood and will, it is expected, have that much completed by January 1.

Guthrie, O. T.—The Guthrie, Fairview & Western Railroad Co., chartered three years ago by J. S. M. McCaull and others, is reported to have sold out to the Santa Fe system. Some grading was completed westward from Darro, O. T., and some track was laid in Guthrie, the line being planned from the latter point to Fairview, O. T. C. Morse, chief engineer of the Santa Fe, at Topeka, Kan., may be able to give information about reported plans to extend.

Hattiesburg, Miss.—Reports say that the Birmingham, Mississippi & Southwestern Railway, chartered in Alabama, Mississippi and Louisiana to build a line from Birmingham via Hattiesburg and Waynesboro, Miss., to Baton Rouge, La., with a branch from Waynesboro to Pascagoula, will carry out its plans. The incorporators are A. H. Longino, J. J. Comer and A. J. Hackett of Jackson, Miss., and others; capital \$5,000,000.

Kelso, Miss.—The Kelso and Silver City branch of the Yazoo & Mississippi Valley Railroad (Illinois Central system) is reported to be practically completed and will be soon in operation.

Lawrenceburg, Tenn.—A letter to the Manufacturers' Record says that the plans for the proposed Tennessee Western Railway are not yet matured for announcement. J. H. Connor, Steger Building, Nashville, Tenn., who is interested in the proposed Nashville & Huntsville Railroad, is also interested in the Tennessee Western.

Lawton, O. T.—The Kansas, Lawton & Gulf Railroad Co. has been chartered with \$5,000,000 capital to build a line from the Kansas boundary through Oklahoma to the

Red river near Waurika, via Taloga and Lawton. The incorporators are J. M. Bellamy, S. P. Thornhill, Charles G. Shane and Frank P. Cease, all of Lawton, and A. J. Robinson of Frederick, O. T.

Lawton, O. T.—The Lawton, Wichita Falls & Northwestern Railway Co. has, it is reported, awarded a contract to the Stebbens & Kirk Construction Co. of Oklahoma City to build seven miles of line from Kell to Randlett, O. T. J. M. Bellamy is president at Lawton, and A. J. Robinson is chief engineer at Frederick, O. T. The Missouri, Kansas & Texas Railway is said to be interested.

Marietta, Ga.—Reported that citizens of Marietta, Powder Springs and Macland, together with capitalists of Atlanta and elsewhere, will build an electric railway connecting the points named and will incorporate the Marietta & Macland Railway Co. John N. McEachern and others of Atlanta, John P. Cheney, E. P. Dobbs, George McElreath and W. J. Manning of Marietta are said to be concerned. E. H. Clay of Marietta is attorney; capital \$500,000 to \$1,000,000.

Marion, S. C.—The Marion & Southern Railroad Co. has completed one and three-quarter miles of its line to Bennettsville and has been authorized to operate it. It is expected to complete about 20 miles by next spring.

Memphis, Tenn.—The Lake View Traction Co. is reported to have completed location survey from Memphis to Lake View, besides leaving preliminary report on the entire route from Memphis to Clarksdale, Miss., 77 miles. President R. F. Tate of the Clarksdale, Covington & Collerville Interurban Co., which is associated with the Lake View Traction Co., has, it is stated, accepted the franchises in Memphis and Shelby county.

Memphis, Tenn.—The Memphis Railroad Terminal Co. has applied to the City Council for the desired franchises to build the new union passenger station. An ordinance has been introduced and passed on the first reading by the lower board making provision for the terminal.

The new station, it is said, will front on Iowa avenue between South 4th and Driver streets. John H. Watkins is president of the Terminal Company, and he is reported as saying that \$3,000,000 will be spent.

Mexico, Mo.—S. L. Robinson, president of the Mexico & Perry Traction Co., is reported as saying that the grading contract for the electric railway has been let to J. M. Wolf of Collinsville, Ill., and work has begun; line 25 miles long, connecting the two points named; capital \$850,000. The officers are W. Gaither, secretary and treasurer; T. T. Henderson, assistant secretary; C. C. Helser, first vice-president; C. W. Mundy, second vice-president; W. J. Bates, third vice-president; directors are T. Kunkel, G. Zaugg, Ashby Botts and W. M. W. Braden.

Mobile, Ala.—The Mobile, Jackson & San-Saia City Railroad, it is reported, has begun general improvements to its line between Beaumont and Hattiesburg, Miss. H. S. Jones is chief engineer at Mobile.

Muskogee, I. T.—The Missouri, Oklahoma & Gulf Railway, it is reported, is surveying for an extension northward from Waggoner, I. T., to Lawrence, Kan., to connect with the Union Pacific Railway, and it is further alleged that the Harriman interests have bought the road and that it will be connected also with the Houston & Texas Central Railway.

Nashville, Ark.—The Memphis, Paris & Gulf Railway is reported to have put in operation its line from Nashville to Ashdown, Ark. A. C. Ramsey and others are interested.

Norfolk, Va.—The Manufacturers' Record is informed that the Norfolk & Portsmouth Bell Line expects to build next year three miles of yard track at Port Norfolk. Geo. S. Shafer is superintendent.

Oklahoma City, O. T.—The International & Great Southern Railway Co. has been chartered with \$60,000,000 capital stock to build a line from Joplin, Mo., via Weber Falls, I. T., to Galveston, Texas, with branch line from Weber Falls to Fort Worth, Texas, and to El Paso, Texas, a total of 200 miles. The incorporators are George Slisby of Saginaw, Mich.; D. D. Klapp, M. H. Tennison, Henry Loop and John H. Surber of Tecumseh, O. T.; L. E. Patterson, C. T. Williams and S. C. Glasgow of Oklahoma City.

Oklahoma City, O. T.—The Oklahoma Interurban Traction Co. of Oklahoma City, with \$500,000 capital stock, has been chartered to build an electric interurban railway in Oklahoma City and Capitol Hill, and also to El Reno, O. T. The incorporators are L. E. Patterson, S. C. Glasgow, G. F. Benz, John H. Wright and Lee Hamilton.

Oklahoma City, O. T.—The Oklahoma, Col-

orado & Pacific Railroad Co., capital \$18,000,000, has been chartered to build a line from Oklahoma City to Trinidad, Colo., 600 miles. The incorporators are George Slisby of Saginaw, Mich.; Edgar Turney of Turney, O. T.; H. P. Ladd, L. E. Patterson and Robert Huson of Oklahoma City and M. G. Wiley of Guymon, O. T.

Oregon, Mo.—The Oregon Interurban Railway Co. of Holt county has been chartered for a line six miles long from Oregon to Forest City; capital \$60,000. It is reported that the company will use the line of the Kansas City, St. Joseph & Council Bluffs Railroad. Among the stockholders are Benjamin F. Morgan, Louis L. Moore, C. D. Zook, William Deer, H. C. Cook and William Richards.

Pawhuska, O. T.—An officer of the proposed Oklahoma & Golden City Railway is reported as saying that capital and right of way are partly secured and a proposition is under consideration for liberally providing funds for construction. Contracts may be let in February. The proposed line is from Pawhuska to Jefferson City, Mo., 265 miles, with several branches. W. S. Pope of Jefferson City, Mo., is president; John A. Griesel of Golden City, Mo., is general manager, and W. K. Palmer of Kansas City is chief engineer.

Pensacola, Fla.—The Louisville & Nashville Railroad, it is reported, will revise about 30 miles of its line between Pensacola, Fla., and Selma, Ala. This, it is expected, will be followed by building a new line from Selma to Birmingham. W. H. Courtenay is chief engineer at Louisville, Ky.

Statesboro, Ga.—The Savannah, Augusta & Northern Railroad is reported to have completed grading between Statesboro and Garfield, Ga., and between Garfield and Louisville, Ga., 32 miles, grading is making rapid progress. Track is being laid on the completed section.

Statesville, N. C.—Preliminary survey for the proposed Statesville Air Line Railroad has been completed from Statesville to Mount Airy, N. C., 65 miles, by R. L. Greene.

Tampa, Fla.—A press report says that William S. Barber of Glassboro, N. J., representing Eastern capitalists, contemplates building a railroad from Tampa to Jacksonville and St. Augustine.

Teague, Texas.—The Trinity & Brazos Valley Railway will, it is reported, build 12 miles of track at and near Teague. P. G. Burns is chief engineer at Fort Worth, Texas. The work, which is mainly yard and switching tracks, has begun.

Washington, D. C.—The Baltimore & Ohio Railroad Co. has begun construction of its branch to Georgetown, D. C. This includes the building of a freight yard in Georgetown.

Wichita Falls, Texas.—The Wichita Falls & Northwestern Railway, it is reported, has completed its extension to Frederick, O. T., and it is to be opened immediately.

STREET RAILWAYS

Baltimore, Md.—The Baltimore, Halethorpe & Elkridge Railway Co. will, it is announced, complete two and one-quarter miles of its line from Baltimore to Halethorpe by July 1 next. Carville D. Benson and others are the incorporators.

Bluefield, W. Va.—The Bluestone Traction Co. has been granted its franchise to build lines on South Bland street and other thoroughfares in South Bluefield.

Columbus, Miss.—Reported that C. F. Sherrod has been elected president of the Columbus Railway Light & Power Co. to succeed R. W. Watson of Harrisburg, Pa., resigned, and the street-car line is to be extended. Mr. Watson still holds his interests in the railway.

Hot Springs, Ark.—An ordinance has been passed and approved granting an electric street-railway franchise to the Hays Bros. Immigration, Improvement & Real Estate Co.

Rome, Ga.—The Rome Railway & Light Co. has applied for a franchise to build a street-railway extension in West Rome.

Sumter, S. C.—J. L. Alnutt has applied to the City Council for a street-railway franchise. Action was deferred, as another franchise had been granted to W. H. Ingram and others, until November 26.

Yazoo City, Miss.—The Supreme Court of Mississippi has, it is announced, upheld the issue of municipal bonds to build a street railway, for which a contract was let a year ago to the Sanders-Johnson Company of Greenville, Miss., and it is expected that construction will shortly be undertaken. Kirkpatrick & Johnson of Jackson, Miss., are the engineers.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Automobiles.—G. J. v. Bemmel, Ou denrijn (U), Holland, wants agency for automobiles made in America.

Bag-turning Machine.—Goldsmith Manufacturing Co., Charleston, S. C., wants to correspond with manufacturers of bag-turning machines; Lockwood turner especially.

Bell.—Frank R. Tobin, El Paso, Texas, in market for fire or church bell.

Boiler.—Pocomoke Perfect Brick Co., Inc., Cape Charles, Va., wants prices on 175 or 200-horse-power boiler.

Boilers.—National Wood-Vulcanizing Co., 52 Broadway, New York, wants estimates on two horizontal tubular boilers 5x18 feet.

Brass Beds Trimmings.—T. Borochoff, Southern Wire & Iron Works, 22 North Butler street, Atlanta, Ga., wants to correspond with manufacturers of brass beds trimmings.

Brass Tubings.—T. Borochoff, Southern Wire & Iron Works, 22 North Butler street, Atlanta, Ga., wants to correspond with manufacturers of brass tubings.

Brick.—Walter G. Kirkpatrick, Jackson, Miss., wants prices on fire-brick, also common brick; delivered Meridian, Miss.

Brick.—Grandy & Jordan, Greenville, S. C., want press brick.

Brick Machinery.—See "Hardening Cylinder" and "Grinder and Pulverizer."

Brick Plant.—R. H. Graham, Smithville, Texas, wants prices on sand-lime brick plant, 20,000 capacity, f. o. b. Smithville; also wants estimates on erection of same.

Building Materials.—W. C. Whitney, Beaumont, Texas, wants estimates on structural steel and iron, copper and tin work, tile and slate roofing, press brick, cement, plaster and factory work.

Bulkhead Construction.—Bids will be opened December 11 at U. S. Engineer Office, Montgomery, Ala., for constructing bulkhead at mouth of Apalachicola river, Florida; information on application; H. B. Ferguson, Captain, Engineers.

Cardboard Machinery.—See "Woodenware Machinery."

Castings.—Walter G. Kirkpatrick, Jackson, Miss., wants prices on castings, delivered Meridian, Miss.

Copper.—Bids will be opened December 11 at office of Elliott Woods, superintendent United States Capitol Building and Grounds, Washington, D. C., for furnishing and delivering only at office building, United States Senate, Washington, D. C., sheet copper—6250 sheets, 24x36 inches, equivalent to 100,000 square feet of material; certified check or surety bond in sum of 5 per cent. of amount of bid. Contract will require approved surety bond in sum of 50 per cent. of amount of contract; usual rights reserved.

Cotton Cloth.—Proctor Trouser Co., Cornelius, N. C., wants to buy denim for overall manufacturing.

Cotton Gins.—L. H. Turner & Co., Elberton, Ga., will want cotton gins.

Drykin.—W. P. Thompson, Mendville, Miss., will need steam drykin.

Electrical Equipment.—T. F. Scott & Sons, Henning, Tenn., want prices on electrical equipment for cotton gin.

Electrical Machinery.—J. C. Steele & Sons, Statesville, N. C., want to buy second-hand alternating-current motor of 25 to 40 horsepower, 60-cycle, 230 volts, three-phase induction.

Electrical Mining Machinery.—Panama Coal Mining Co., Moundsville, W. Va., is in market for electrical mining machinery.

Electric-light Plant.—City of LeCompte, La., invites electrical engineers, contractors and others to submit plans and specifications until December 3 for power-house and complete electric-light system. Cost must not exceed \$10,000; usual rights reserved; J. R. Moore, Mayor.

Electric-light Plant.—Columbiana Light & Power Co., Columbiana, Ala., will soon invite proposals on installation of electric-light plant.

Electric Motor.—Hadley, Harris & Co., Wilson, N. C., in market for new or second-hand electric motor, 15 to 20 horse-power, 133 cycles, single phase, 250 voltage.

Electric Wiring.—W. C. Whitney, Beaumont, Texas, wants bids on electric wiring for \$8,000 courthouse.

Elevator.—H. L. Smith, Durham, N. C., wants prices on hand-power elevator of 2000 to 3000 pounds capacity.

Engine.—Pocomoke Perfect Brick Co., Inc., Cape Charles, Va., wants prices on 125-horse-power engine.

Engine and Boiler.—S. D. White, manager city lighting and power plant, Lagrange, Ga., wants engine and boiler, 250 horse-power.

Flour and Grist Mill Machinery.—L. H. Turner & Co., Elberton, Ga., will want mill supplies.

Fuller's Earth Manufacturers.—L. W. Christian, Weatherford, Texas, wants to correspond with manufacturers of fuller's earth for commercial purposes.

Gas Plant.—C. A. Miller, Bonifay, Fla., wants acetylene-gas plant for lighting stores and dwellings; must be in operation by December 15.

Gas Plant.—E. W. Hall, care of Oak Hall Hotel, Tryon, N. C., wants information relative to machinery for gas plant for 8000 population.

Grates.—Mrs. John R. Proctor, Durham, N. C., wants grates.

Grinder and Pulverizer.—Pocomoke Perfect Brick Co., Inc., Cape Charles, Va., wants prices on lime grinder and pulverizer; also sand grinder and pulverizer.

Handle Machinery.—Winnfield Hardwood Manufacturing Co., Winnfield, La., is in market for handle machinery.

Hardening Cylinder.—Pocomoke Perfect Brick Co., Inc., Cape Charles, Va., wants prices on hardening cylinder.

Hardwood Staves.—Western Naval Stores Co., Aldridge, Texas, wants to buy 300,000 rough barrel hardwood staves, 34 inches long; can use staves unfit for oil or whiskey barrels; knot or worm holes no objection; want prices f. o. b. factory or delivered Aldridge, Company's telegraph office, Rockland, Texas.

Heating Plant.—Mrs. John R. Proctor, Durham, N. C., wants heating plant for \$8000 residence.

Heating Plant.—W. C. Whitney, Beaumont, Texas, wants bids on steam-heating plant for \$88,000 courthouse.

Ice Plant.—American Ice Co., H. S. Matthews, secretary, Oxford, Md., invites proposals for 10-ton ice plant; new or second-hand.

Implement Manufacturers.—Worswick-Haardt, 215 North Lawrence street, Montgomery, Ala., wants to correspond with machinery makers relative to manufacture of cotton harvester.

Indigo Paste.—R. M. Williams, 121 North Park avenue, Norfolk, Va., wants to buy indigo paste.

Ink Machinery.—R. M. Williams, 121 North Park avenue, Norfolk, Va., wants to correspond with manufacturers of ink-making machinery, including steam-jacket tanks or boilers.

Levee Construction.—Mississippi River Commission, Fourth District, 1539 Louisiana avenue, New Orleans, La., will open bids December 16 for constructing 771,600 cubic yards of levee work in Lower Tensas, Atchafalaya and Ponchartrain levee districts. Information on application; J. F. McIndoe, Major, Engineers.

Locomotives.—J. F. Donahoo, Munsey Building, Washington, D. C., is in market for two second-hand 35-ton saddle-tank locomotives.

Log-loader.—J. F. Donahoo, Munsey Building, Washington, D. C., is in market for one second-hand log-loader.

Lumber.—Bids for furnishing and delivering about 1,258,695 feet B. M. long-leaf yellow-pine lumber will be received at United States Engineer Office, Nashville, Tenn., until December 14. Information on application; Wm. W. Harts, Major, Engineers.

Machine Tools.—W. B. Lamb, sales department Florida Gas Engine & Supply Co., Tampa, Fla., is in market for small lathe, five-step cone, 21-inch swing, hollow-spindle one and one-half inches, taper attachment, compound rest, quick in-and-out change and other improvements; small combination buffing and emery wheel; small drill press, 36-inch table; all new or second-hand.

Machinery Manufacturers.—See "Implement Manufacturers."

Mantels.—Mrs. John R. Proctor, Durham, N. C., wants mantels for \$8000 residence.

Mine Cars.—Panama Coal Mining Co., Moundsville, W. Va., will want mine cars.

Miscellaneous Supplies.—Bids will be received at office of H. F. Hodges, General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until December 13 for lumber, stern spud for dipper dredge, motor generator set, electric fans, electric switches and fuse-blocks, steam whistles, band saws, etc. General information relating to Circular No. 403 obtained from above office or office of assistant purchasing agents, 24 State street, New York; Custom-house, New Orleans; 1086 North Point street, San Francisco, Cal., and 410 Chamber of Commerce Building, Tacoma, Wash.; also from Chief Quartermaster, Chicago; Depot Quartermaster, St. Louis; Depot Quartermaster, Jeffersonville, Ind., and Chief Quartermaster, Atlanta, Ga., and at U. S. Engineer Office in following cities: Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville and Mobile.

Molds.—J. S. Kuykendall, secretary Chamber of Commerce, Greensboro, N. C., wants set of molds for making asbestos pipe covering; immediate delivery.

Paving.—Bids will be received at office of T. J. Powell, Mayor, Providence, La., until December 17 for paving and curbing about four miles of sidewalks. Bids must be by square foot. No bid for lump price will be considered. Bids must be accompanied by \$200 in money or certified check; bond, \$10,000. All work to be according to lines and grades furnished by town and to specifications on file in office of Mayor. Contractor to furnish all material; usual rights reserved.

Pulp Finisher.—Alert & McGuire, 66 Madison street, New York, in market for Cyclone pulp finisher to be installed at Frederickburg, Va.

Pump.—National Wood-Vulcanizing Co., 52 Broadway, New York, wants estimates on vacuum pump.

Roofing.—W. C. Whitney, Beaumont, Texas, wants bids on tile or slate roofing for \$98,000 courthouse.

Safe.—W. N. McAnge, chairman of special committee, Suffolk, Va., wants safe or vault material for protection of town records.

Safe.—Frank R. Tobin, El Paso, Texas, in market for second-hand fire and burglar-proof safe or bank vault.

School Desks.—S. N. Johnson, Coulwood, Va., wants prices on desks for two school buildings.

Sewer Construction.—J. D. Hank, Jr., secretary Local Board, Seventh ward, Norfolk, Va., will open bids November 28 for construction of part of sewerage system of said ward. Work consists of constructing about 4000 linear feet 10-inch terra-cotta pipe lateral sewer, 24,000 linear feet 8-inch terra-cotta pipe lateral sewer, 24,000 linear feet 4-inch terra-cotta pipe house connections, 50 manholes and 35 flush tanks. Plans and profiles may be seen and specifications, etc., may be secured at office of W. T. Brooke, City Engineer; usual rights reserved.

Sheet Iron.—E. R. King, Hagan, Va., will want sheet-iron covering for store building.

Shoe Stands.—H. M. Parker, 924 Washington street, Suffolk, Va., wants nickel-plated revolving shoe stand for show window.

Soldering Machine.—Charleston Lead Works, K. E. Stello, treasurer, Charleston, S. C., in market for soldering machine.

Steam Shovels.—J. F. Donahoo, Munsey Building, Washington, D. C., is in market for two second-hand They steam shovels.

Steel Ceiling.—E. R. King, Hagan, Va., will want beaded steel ceiling.

Steel Building Material.—Grandy & Jordan, Greenville, S. C., want steel beams and rods.

Telephone Equipment.—J. H. Ward, manager Armuchee Telephone Co., Villanow, Ga., wants telephone equipment.

Tiling.—Mrs. John R. Proctor, Durham, N. C., wants tiling for \$8000 residence.

Tiling.—J. B. Blades, care of J. B. Blades Lumber Co., Newbern, N. C., wants four-section tiling for partition work.

Vulcanizing Equipment.—National Wood-Vulcanizing Co., 52 Broadway, New York, wants estimates on complete cylinder plant for treating lumber by Howard wood-vulcanizing process, including two steel and cast-iron cylinders 110 feet long by 7 feet diameter, condenser, two horizontal 5x18-foot tubular boilers, vacuum pump; all fittings complete and plant installed.

Water-wheels.—L. H. Turner & Co., Elberton, Ga., will want water-wheels for cotton gin and flour and grist mill.

Water-works.—Baldwin County Commissioners will open bids December 9 for construction of water-works and closets for courthouse of Baldwin county, located at Bay Minette, Ala.; also for building fence around courthouse. Plans and specifications on file in office of J. H. H. Smith, Judge of Probate of Baldwin county; certified check for 2 per cent of bid; bond in amount of bid. Bidder may bid on water-works, closets and fences.

ing, with amount of bid on water-works and fencing separate; usual rights reserved.

Woodworking Machinery.—Winnfield Hardwood Manufacturing Co., Winnfield, La., is in market for machinery for manufacturing wagon and vehicle materials, handles, laths and shingles.

Woodworking Machinery.—Forest C. Goff, manager Parkersburg Paper Package Co., Parkersburg, W. Va., wants addresses of manufacturers of oyster and ice-cream pail and pie-plate machinery.

INDUSTRIAL NEWS OF INTEREST

SEWING MACHINE AND STOVE MANUFACTURERS.

Manufacturers of sewing machines, stoves and ranges desirous of being represented in the District Trebizonde of Turkey are invited to address J. G. Y., care of the Manufacturers' Record.

SOUTHERN CARS FOR CENTRAL AMERICA.

The Western Car & Foundry Co. of Anniston, Ala., has completed the manufacture of 200 flat cars, for which it received contract some time ago. These cars cost about \$1000 each, and are being shipped to the United Fruit Co.'s railway system in Central America.

REMOVAL OF RAYMOND OFFICES.

Announcement is made of the removal of the New York offices of the Raymond Concrete Pile Co. to 140 Cedar street, in the new West Street Building. The steady increase in the business of the company made the abandonment of the former quarters necessary in order to gain greater floor space.

CORRUGATED BARS FOR MEXICO.

The Expanded Metal & Corrugated Bar Co. of St. Louis, Mo., is furnishing the reinforcement required for the construction of three circular reservoirs, 100 meters in diameter, for the Potable Water Commission, City of Mexico. An order for 2600 tons of corrugated bars has been placed with the above company.

BIG CONTRACT FOR PIPING.

The special subcommittee appointed at Atlanta, Ga., to consider the proposals made to the city for 13,000 feet of 36-inch pipe has recommended that the contract be awarded to the United States Iron Pipe & Foundry Co. of Chattanooga, Tenn. This company's bid is \$24.50 per ton, 3000 tons of cast-iron pipe to be supplied.

MR. R. LINDENTHAL.

Mr. R. Lindenthal of New York, long connected with the New York office of the Arthur Koppel Company, has resigned and intends to locate in Berlin, Germany, as a representative of American manufacturers. Any correspondence addressed to him care of the Arthur Koppel Company, 150 Morris Building, New York, will have his attention.

SULLIVAN MACHINERY CO.

The Sullivan Machinery Co. of Chicago announces the removal of its offices at Birmingham, Ala., from No. 12 to No. 1 20th street South. This change provides the branch establishment with additional space in which to show Sullivan rock drills and their parts and for other mining and quarrying machinery kept in stock by the Birmingham office.

BIRMINGHAM ENGINEERING CO.

The Thornton Company and Messrs. Ramsey, Bowron & Perry of Birmingham, Ala., have combined under the title of the Birmingham Engineering Co., with offices at 918 and 919 Brown-Marx Building. This company will give its attention to mechanical and electrical engineering in the consulting line, and inquiries regarding the facilities offered are invited.

VISES TO RIO JANEIRO.

The Pittsburgh (Pa.) Automatic Vise & Tool Co. has just completed a large shipment of vises to the Brazilian Government, Rio Janeiro. This order is a direct outcome of inspection and test made by the Brazilian Government at the recent Jamestown Exposition exhibition of the Pittsburgh Company. The shipment consisted of both the double and single swivel type.

Demand for Fire Brick.

Fire brick is a product of such a nature that large quantities of it are in demand. While present business conditions have lessened the demand for many manufactures, the Savage Mountain Fire Brick Co. of Frostburg, Md., says there is no cessation in the shipments. The company continues to man-

ufacture at full capacity, and reports that orders continue to be received warranting a continuance of this activity.

MANUFACTURING TRUNKS IN THE SOUTH.

The manufactured products of the South in constant demand include trunks and travel bags, and at Petersburg, Va., there is a bag and trunk factory claimed to be the largest in the world. This plant is the one operated by the Seward Trunk & Bag Co. of Petersburg, Va. The output is disposed of in all parts of this country and in foreign countries, the company having agencies in the leading cities and export agents in New York.

CITY RETAINS CHARLES E. COLLINS AS ENGINEER.

Numerous are the Southern cities and towns now building or preparing to build water-works, electric-light plants, sewer systems and other plants. They include Shelbyville, Ky., which will provide for the construction of a sewerage system and sewage-disposal plant. The engineer retained for this is Charles E. Collins, offices in Drexel Building, Philadelphia, Pa. Contract for construction was awarded to Frank Schebold of New Albany, Ind.

STRUCTURAL STEEL FOR IMMEDIATE DELIVERY.

Building contractors and others interested in structural steel and similar material are advised that a quantity of such products for immediate delivery is held by the R. C. Foster Company, offices in Brown-Marx Building, Birmingham, Ala. The company is distributing a circular presenting details of the materials listed, including beams, angles, channels, open-heart steel bars, etc. It invites inquiries for any supplies needed in erecting mill and factory buildings, bridges, etc.

AMERICAN TURBINE ENGINES IN JAPAN.

In the development of Japan the progressive Japanese make it a point to purchase nothing but the most up-to-date material. The Japanese were among the very first to see the value of the turbine engine, and as a consequence a great many American turbine engines have been installed in that far-away country. A total of 69 units, aggregating 60,000 horse-power capacity, of the Curtis type of turbo-generator, manufactured by the General Electric Co. of Schenectady, N. Y., has been installed in that country.

BIG ORDERS FOR ELECTRIC LAMPS.

Among recent orders from the South received by the Fostoria Incandescent Lamp Co. of Fostoria, Ohio, are one for 10,000 lamps from Anderson, S. C., and one for 25,000 from Norfolk, Va. This company was one of the pioneers in the Southern lamp field. Long ago it recognized that with the growth of the South there was bound to come a large demand for incandescent lamps. It has had an office in Atlanta, Ga., for over seven years, carrying a full stock at that point, and at Savannah, Ga., which gives it unusual facilities for handling the wants of the trade promptly.

WILL USE CONCRETE PILING.

The Long Island Railroad will use concrete pile foundations for the new conduit line in the North Shore yards at Long Island City. The contract has been awarded to the Raymond Concrete Pile Co. of Chicago and New York by J. R. Savage, chief engineer. The conduit, which will be of concrete, will be 1100 feet long and will carry the feed wires for the electric system. The application of concrete piling to conduit foundations is a novel one, it being stated that this is the first time such use has been made on a contract of any magnitude. The Abbott-Gamble Company is the general contractor.

CONTINUED DEMAND FOR WESTINGHOUSE LAMPS.

Probably no name is more prominently known in connection with electrical machinery and supplies than that of Westinghouse.

DYNAMOS, motors, lamps and other electrical manufactures built by the Westinghouse interests are used all over the world, and the demand continues. This is emphatically indicated in the statement from the Westinghouse Lamp Co. of New York city that its sales for the past month have been larger than during any previous month, and orders continue to arrive every day for all kinds and all quantities of electric lamps of Westinghouse manufacture.

Climax Locomotive Receives Gold Medal.

Among the exhibits of railway equipment at the Jamestown Exposition was the Climax locomotive built by the Climax Manufacturing Co. of Corry, Pa. This company has been advised that the gold medal award has been given to it for the Class B Climax locomotive, with 9x12 cylinders, 30-inch drivers, 4½-inch axles. This is the second time the Climax locomotive has been shown at expositions, and each time has received the highest award. A further indication of the locomotive's excellence is the many orders which the builder has on file and the inquiries being received every day.

Graton & Knight Manufacturing Co.

Among the New England manufacturers which had exhibits at the Jamestown Exposition was the Graton & Knight Manufacturing Co. of Worcester, Mass. This company showed a Neptune waterproof leather belt running in water, and has received a gold-medal award for the exhibit. This brand of waterproof leather belt has been on the market for five years and has earned an enviable reputation for general excellence in efficiency and durability. In the company's shoe-counter department, known as the Worcester Counter Co., it was awarded a silver medal for its display of shoe counters and insoles, this being the highest award.

Aluminum Company of America.

That there is an increasing demand for aluminum manufactures in the Southern territory tributary to Atlanta is indicated in the announcement that the Aluminum Company of America (formerly the Pittsburgh Reduction Co.) has established an office in that Southern city. The company has secured office accommodations at 1331 Candler Building, Atlanta, Ga., with John H. Flinney (formerly of the St. Louis office) in charge. Mr. Flinney will give careful attention to any inquiries regarding his company's product of aluminum electrical conductors, ingots, tubing, rods, sheets and other shapes.

Texns Granite and Marble.

Texas granite and marble is being demanded in increasing quantities for building purposes of all kinds. The Lutcher Memorial Church at Orange, Texas, calls for \$80,000 worth of the granite, and contract has been awarded to the Llano Granite & Marble Co., general offices at San Antonio, Texas. This company was organized several months ago with \$100,000 capital stock, and has installed a modern plant for taking out both granite and marble and preparing it for use. Its output includes monumental and vault work, building granite dressed and in position, rubble stone, crushed granite, marble for buildings, etc. John S. Sweet is president.

Universal Excavating and Grading Machine.

Contractors for construction work and others who are interested in improvements in mechanical equipments for excavating and grading are invited to investigate the features of a new machine patented by William Gilmore of 330 Forty-fifth avenue, Meridian, Miss. The Gilmore machine is entirely self-contained and is of traction type in construction. It has both forward and backward motion and is operated from the deck. Its speed is variable—one to six feet in forward motion and one and a half to two miles per hour backing up. The grading apparatus consists of a rotary shaft with a series of suitable cutters inserted in a spiral form to produce an even and uniform working strain on cutter shaft at all points of each revolution. Parallel with and just behind cutter shaft is located drag conveyor apron, so arranged in relation to cutter shaft that in revolving it either throws the earth entirely over on apron or cuts it in such shape that it will readily load earth upon apron. After earth has been loaded on apron, through trough or apron, a drag conveyor passes, conveying earth along and up to end of conveyor apron, there discharging it on a discharging conveyor, which will convey it any distance required from the machine. Equipped with an 18-horse-power gasoline engine, the machine has ample power for the work required. Further information can be obtained by addressing Mr. Gilmore.

Another Manufacturer of Big Gas Engines.

As an indication of the rapid development in the manufacture of big gas engines and the importance of the field occupied by this type of prime mover, it is of interest to note that another manufacturer of large Corliss steam engines has actively taken up the manufacture of gas engines, and is bidding strongly for engines in medium and large sizes. The manufacturer referred to is the Wisconsin Engine Co. of Corliss, Wis. This company has built some very large and successful Corliss steam engines, and is now building gas engines for all services in sizes from 400 B. H. P. to 5000 B. H. P. The engines utilize natural gas, producer gas, coke-oven gas or blast-furnace gas in the Otto cycle (four-cycle), and are of the horizontal tandem and twin tandem double-acting type. The company controls the Sargent patents on internal-combustion engines, and has employed Charles E. Sargent as the engineer of its gas-engine department. Mr. Sargent has a wide reputation as an engineer, and in 1898 designed the first horizontal tandem double-acting gas engine, which was a wide departure from the accepted practice of those days, when the most prominent manufacturers of gas engines declared such a type was impracticable. However, the largest and most successful gas engines are of the horizontal twin tandem double-acting four-cycle type. The company says that with one exception this is the only type in which large units are being built in this country today. The gas engines built by the Wisconsin Engine Co. bear some of the distinctive features of its big Corliss engines, and utilize in design most of the Sargent patents. The design is simple and embodies features which are of considerable interest to the engineer and power user, e. g., there is but one poppet valve for each explosion chamber, and as this is located on the bottom of the cylinder, cumbersome and unsightly air and gas pipes, stairs, galleries and railings are entirely eliminated. Provision is made for preventing the dangerous pressures caused by possible pre-ignitions, and the engines are started automatically. Tests of small Sargent engines show a heat consumption of less than 3000 British thermal units per brake horse-power hour. The company has recently shipped large steam engines to the Illinois Steel Co., Jones & Laughlin Steel Co., Packard Motor Car Co., American Sheet & Tin Plate Co., Amoskeag Manufacturing Co., New Hampshire Spinning Mills, National Tube Co., City of Milwaukee, Carnegie Steel Co., American Woolen Co., United States Envelope Co. and the Carnegie Natural Gas Co. It has a reputation for shipping on time, and promises to do as well on gas-engine orders.

From B. M. Root Company.

The B. M. Root Company of York, Pa., states that notwithstanding the financial situation it is continuing to receive many inquiries and contracts for the machinery it manufactures. A number of good contracts are about to be closed, and the company's recent shipments were of importance. These recent shipments included a rim bender for Frost & Wood Company of Smith Falls, Ontario, Canada; plow-handle machinery for the W. B. Baker Lumber Co. of Berryville, Ark., and plow-handle machinery for the Sullivan Manufacturing Co. of Rome, Ga. An order which has been received from Japan calls for a B. M. Root variety saw table, pattern A.

Made by Westover Paper Co.

There is offered by the Westover Paper Co. a line of manufactured products which is largely consumed in the general industrial activity of the day. These manufactures include papers for roofing, building, insulating, fireproofing and numerous other purposes, also asphalt varnish, roof and bridge paints, and paints for all classes of buildings. As a Southern enterprise the Westover Paper Co. has come to be widely known, and it has established with the trade and with users of its various specialties an enviable reputation for furnishing economical and efficient articles in its chosen field of activity. Literature telling the details of Westover offerings is ready for inquirers. Address the company at Richmond, Va.

New Southern Bridge Plant.

Each year the South becomes more prominent in its relation to the industrial world. Large establishments for industrial activity are continually being planned and built there. This thought is suggested by the recent completion of the new works of the Nashville Bridge Co. of Nashville, Tenn. The plant occupies five acres on the Louisville & Nashville Railroad. Its product is all classes of bridge and structural-steel

work, besides stacks, standpipes and tanks. The main building is 90 feet wide by 156 feet long. This new structure is of sawtooth design, of steel frame, with four-inch cinder-concrete walls, and ribbed glass for lighting. A full equipment of the most modern machinery and tools is in position.

Shoe Manufacturers' Exhibits at Jamestown.

Among the various classes of manufactures exhibited at the Jamestown Exposition was that contained in the shoe industry. Northern, Western and Southern shoe manufacturers were represented, these latter including the Craddock-Terry Company of Lynchburg, Va. This company was awarded two gold medals, one for its full line of "Long Wear" shoes, and one for the exhibit because of its various novel features. The Craddock-Terry Company is one of the most successful shoe manufacturers in the South and reports that its output this year will be worth about \$1,000,000. Its sales are increasing every month, October having shown an increase of \$35,000 over October of 1906.

Zahner Fireproof Building Materials.

Besides manufacturing self-closing fireproof windows and doors, the Zahner Manufacturing Co., 310 to 316 West 20th street, Kansas City, Mo., has made a specialty of metal window frames and sash which are fireproof, and has installed them in many buildings, together with wired glass. Recent contracts include the eight-story Stewart Building, six-story Sternenburg Building and seven-story Paul Building, Houston, Texas, and the four-story 150-foot front Slattery Building, Shreveport, La. In Kansas City the Baltimore Hotel is building an addition, which, with 47 feet of the old part, will be 12 stories high. The Zahner Company took the contract to equip the addition with metal window frames and sash and wired glass, as well as the entire east side of the existing building.

K. C. Elevator Manufacturing Co.

The K. C. Elevator Manufacturing Co. of Kansas City, Mo., was organized in 1881 by Allan Turner. Associated with him was his son, F. C. Turner. They conducted the enterprise jointly until 1893, when Allan Turner died, and since then W. T. Turner, a brother, has been associated with F. C. Turner. The company was incorporated in 1884. It began by the manufacture of small hand-power elevators, and gradually increased year by year, showing a steady growth and increased confidence on the part of purchasers, until today it is manufacturing hydraulic, electric and plunger types of machines, while not neglecting the earlier hand-power types. The electrical machine is featured by the installation of an automatic mechanical control as contrasted with magnetic controlling devices. The company's trade during 1906 was the best it ever had, and 1907 has gone far beyond last year.

For Engineering Brick Plants.

Those who propose to establish work or similar manufacturing plants, or owners of established plants who are to add to their present facilities, can consult with the Luce Engineering Co., 421 Olive street, St. Louis, Mo., regarding plans and machinery for their industries. The Luce Engineering Co. was formed for this purpose and is prepared to design and install complete plants or to provide betterments in existing plants in order to promote economy and efficiency in them. This company's officers include G. E. Luce, president; Will P. Blair (of Terre Haute, Ind.), vice-president, and Peter B. Gibson, secretary-treasurer. Mr. Blair has long been identified with brick-paving progress. Mr. Gibson was formerly with the Scott Manufacturing Co. of St. Louis and Mr. Luce and Mr. Blair were connected with the G. E. Luce Engineering Co. of Chicago, which was taken over by the Luce Engineering Co. of St. Louis.

The Alcatraz Asphalt Plant.

The word "paints" is aptly applied to various products for coating surfaces in order to enhance their appearance and lengthen their duration of usefulness. Asphalt has become largely used in paint manufacture because of properties it possesses for increasing the value of the paint produced. The Alcatraz Company, 17 South 13th street, Richmond, Va., has become prominent for its offerings in asphalt paints, and has for distribution some instructive literature. It presents a history of the use of asphalt for various purposes, tells how paint should be used in order to obtain the best results, and explains the valuable factors embodied in asphalt paints. Alcatraz paints are made from Utah asphalt melted with specially prepared pure linseed oil, and kept in liquid consistency with pine creosote. The result

is a paint that gives the greatest possible durability to any surface to which it may be applied—wood, metal, felt, etc. The Alcatraz Company is offering agencies in specified territory.

Big Contract for Piping Equipment.

An indication of the magnitude of the work that is being done at Gary, Ind., by the United States Steel Corporation is a contract amounting to over \$2,000,000 for piping equipment. The Best Manufacturing Co. of Pittsburg, Pa., brass and iron founder and pipefitter, has received the contract, which calls for all the piping equipment at the new steel plant now being built by the Indiana Steel Co. at Gary. This piping consists of steam, exhaust, hydraulic, high and low pressure water, compressed air, gas and gas exhaust for 16 blast furnaces, 64 hot-blast stoves, 48 gas washers, 84 open-hearth furnaces, 64 boilers, 8 steam blowing engines, 32 gas blowing engines, 36 gas electric engines of 500,000 horse-power, 7 electric-driven pumps of 200,000,000 gallons capacity daily, together with auxiliary pumps, air compressors, hoisting machinery, etc. The working steam pressure is placed at 175 pounds; working water pressure, high, 1000 pounds; low, 100 pounds. Compressed air pressure, power purposes, all fitted with Best patent gate valves with adjustable wedge discs, is being installed with the above, from 36-inch down. Steam mains are fitted with rolled steel, flanged shrunk, peened and lathe faced. Steam exhaust mains are fitted with cast-iron flanges attached in the same manner. High-pressure air lines are fitted with rolled-steel flanges, Climax joint. High-pressure hydraulic lines, beginning with 14-inch, have cast-steel header and steel valves, then extra heavy and double extra heavy pipe fitted with steel and semi-steel flanges. Low-pressure water lines, consisting of 42-inch cast-steel header, with 7½-inch inlets branching off into 36-inch lock-bar pipe and then into lap-welded steel pipe from 30-inch down, are all fitted with rolled-steel flanges for underground lines, cast-steel screwed flanges above ground. Natural-air intake for each gas engine is made up of 48-inch riveted pipe 90 feet long, with four 14-inch branches to each engine. The gas supply to each engine is 36-inch in size, with two 24-inch branches into each. Gas exhaust from each engine consists of eight 32-inch branches into a 50-inch cast-iron main; 18-inch water main, with two 5-inch branches to each gas engine for cooling purposes. This is claimed to be the largest contract for piping ever awarded for rolling mill, steel works or blast furnace equipment. The Best Manufacturing Co. is doing this class of work all over America and abroad. It has offices at 39 Cortlandt street, New York, and 1209 Betz Building, Philadelphia.

TRADE LITERATURE.

Gasoline Power Railway Cars.

A booklet issued by Messrs. Fairbanks, Morse & Co. of Chicago, New York and other cities contains some timely reference to that company's gasoline motor cars for railway use. The cars are briefly described, and include inspection motor cars for railway companies, 21-passenger cars and locomotive.

Paroid Pointers.

If you are interested in roofing and waterproof papers, some interesting and timely data regarding the subject can be found in "Paroid Pointers." This is a publication which devotes its pages to illustrated information regarding Paroid roofing, Neponset waterproof papers and other products of Messrs. F. W. Bird & Son of East Walpole, Mass. The September "Paroid Pointers" presents views of the use of Paroid roofing in railway stations, roundhouses, coal pockets and other structures. The firm is desirous of receiving requests for its publication.

Special Roofing Slates.

For the benefit of those who are interested in special roofing slates a well-known company has issued several bits of literature that contain data for consideration. One leaflet is entitled "Special Roofing Slates," and refers to the call by architects for a roofing slate other than the "stock" grade to comply with individual ideas and special requirements. It tells how architects can be accommodated in this direction. Another leaflet tells of slate blackboards; another mentions roofing, blackboard, structural and other classes of slate. The E. J. Johnson Company of 38 Park Row, New York, is the manufacturer of the slate articles mentioned.

Tin Roofers' Handbook.

The "Tin Roofers' Hand Book" is a textbook for the instruction of roofers, sheet-

metal workers and their apprentices. It is being distributed gratis by the National Association of Master Sheet Metal Workers of the United States. The object is to instruct roofers in the proper methods of laying tin roofs, and to this end the association had adopted standard working specifications, which are given in the book and fully illustrated. Anyone interested in the choice of roofing materials will find the publication of practical use, and is invited to send for a copy. Address Edwin L. Seabrook, president of the association, 2213 Chestnut street, Philadelphia, Pa.

Tinware for Grocery Trades.

The grocery trades need a varied line of tinware to expedite the transaction of business and the handling of the many different products they offer to purchasers. This has been fully recognized by tinware manufacturers, and numerous articles have been especially designed for the grocery trades. Prominent in this has been the American Can Co. of 447 West 14th street, New York. The company issues an interesting catalogue of its offerings, the articles enumerated including cabinets for tea, coffee, spices, etc., cans and caddies of various kinds, tanks, canisters, boxes, etc. (The company's catalogue was also mentioned last week, but an error occurred in address.)

Some Facts About Portland Cement.

People who are interested in Portland cement will find some interesting facts in Bulletin No. 42 of the Universal Portland Cement Co., Chicago and Pittsburg. The publication presents illustrations and data regarding important construction work calling for quantities of Portland cement. The North Pier, Chicago; the lock and dam, drainage canal, sanitary district of Chicago; concrete lock, same district; two views of reinforced concrete bridge on Big Four Railway near Indianapolis, and Security Bank Building, Minneapolis, Minn., are among the pictures. The Universal Portland cement was used in building these structures. The company's output is 17,000 barrels of cement daily.

The Raymond Wire Specialties.

High-grade wire springs and wire specialties of the Raymond manufacture are illustrated and tersely described in a current pamphlet. This publication is of interest and value to manufacturers and dealers who want to be informed regarding the latest forms of wire springs and of other wire specialties or who want special shapes and sizes made. The Raymond springs are made of any size, length, shape or strength, from one-half-inch round and three-eighth-inch square stock and smaller, of steel, brass or phosphor bronze, with either japanned, coppered, galvanized or plain finish. They are the product of the Raymond Manufacturing Co. of Corry, Pa., where requests for copies of pamphlet are invited.

Eureka Fence Manufacturing Co.

There is now being distributed by the Eureka Fence Manufacturing Co. of Richmond, Ind., a new catalogue of that company's production—ornamental fencing, fencing machines, fence supplies, wire reels, wire stretchers, earth augers, gates, arbors and trellis, eave-trough hangers, office partitions, etc. The publication is fully illustrated with standard types of iron and wire articles, and attention is called to the fact that the company has a department devoted to special construction—manufacturing for others any article calling for iron and wire. Besides offering the numerous iron and wire products listed, the company makes and offers tools and other equipment used in handling and erecting such products.

Ashcroft Prismatic Water Gauge.

Those who are interested in gauges for locomotives, marine and stationary boilers are invited to investigate the Ashcroft design. The Ashcroft prismatic water gauge was designed to meet the demand for a gauge that overcomes the disadvantages of other types. Its principal features are summarized briefly as follows: Absolute safeguard against injury from explosion of water glass; shows water level distinct at all times; can be easily kept tight for a long period without expense; not necessary to continually renew the glass. The Ashcroft Manufacturing Co., 85 Liberty street, New York, is the manufacturer. Messrs. Manning, Maxwell & Moore (Inc.) of the same address can furnish an illustrated leaflet describing the Ashcroft gauge.

Wood Splitting, Cutting and Conveying.

An illustrated publication now being distributed presents a picture of the primitive

way of cutting, splitting and conveying wood. That way answers yet where only two or three cords a day are required, but many manufacturing plants and other industries require hundreds of cords of bolts or wood daily and must have modern mechanical equipment for handling, cutting and splitting the wood. This is the class of mechanical equipment designed and manufactured by Messrs. Wm. E. Hill & Co. of Kalamazoo, Mich. The publication presents full information regarding the Hill machinery and tells how it effectively cuts, splits and conveys wood economically and efficiently wherever required. All the machines are fully described, accompanied by photographic views to elucidate the explanations.

The Evidence in the Case.

The evidence in the case of good roofing versus roofing that is not good is ably presented in the latest number of The Ridgepole. It is shown that people who specify roofing for buildings of any kind should consider the evidence well before making their choice. Durability, appearance and cost are important questions to consider in the purchase of roofing, and these factors are given due consideration in the evidence referred to. The Ridgepole is published by Messrs. J. A. & W. Bird & Co. of 34 India street, Boston, Mass. They manufacture the well-known Rex Flintkote roofing, and their success in making and marketing this product gives them authority to speak on the roofing question. If you are interested in roofing, ask Messrs. Bird & Co. to send you The Ridgepole regularly.

Southern Made Ice-Cream Freezer.

An article that is popular in thousands of homes, and therefore in large demand, is the ice-cream freezer. This device as designed nowadays enables one to readily and at small expense prepare appetizing dainties for the table. A Southern-made freezer that will doubtless become well known to the trade and to users is the "Snowball" ice-cream freezer, manufactured by the Richmond Cedar Works of Richmond, Va. This company issues an interesting illustrated catalogue describing the freezer, and is now meeting requests for a copy. The device is simple and efficient, and the reputation the company has heretofore established for its other manufactures is to be maintained in this finished freezer. The Richmond Cedar Works has a large modern plant, said to be the largest in the world for making wooden-

Concerning Lifting Magnets.

Those interested in labor-saving devices will welcome a 32-page pamphlet just issued by the Cutler-Hammer Clutch Co. of Milwaukee, in which the subject of lifting magnets is fully treated. The booklet in question contains a number of full-page illustrations showing lifting magnets handling pig-iron, steel stampings, castings, scrap and other material, together with diagrams, data on current consumption, information on lifting capacity of magnets, etc. A new cable take-up device is also pictured and described, and reference is made to the Cutler-Hammer system of control, by which the strong inductive reaction or "kick" which occurs when the circuit is suddenly opened on a magnet coil is automatically shunted to a discharge resistance, thus protecting the magnet insulation by dissipating the energy of the induced voltage outside of the coil itself.

Eichleay Steel Structural Work.

The continuance of building activity in various parts of the country is appreciated by manufacturers of the various supplies entering into the construction work involved. Consequently there has been full attention given to the demand for the shapes of metal used in steel buildings and other structures. Prominent among the manufacturers of all classes of steel structures, mill and office buildings, girders and highway bridges, columns, girders, trusses, builders' work, etc., is the John Eichleay, Jr., Company, South 20th and Wharton streets, Pittsburgh, Pa. This company issues for the benefit of purchasers a neat pocket booklet presenting illustrations of its plant, of various structures in which the Eichleay materials have been used, data as to loads, weights, etc., and, in fact, fully indicates the varied line of steel metal shapes offered by the Eichleay Company, besides giving information of value.

Southern-Built Portable Sawmills.

Sawmill and woodworking machinery of an advanced character in design and possibilities is described in a pamphlet now being distributed among those who are interested in the subject of improved mechan-

ical equipments of the kind indicated. Besides referring to the great increase in mills and woodworking establishments and the demand for machinery for them, the pamphlet mentions that the existence of numerous small tracts of timber land has created a demand for a practicable and efficient saw-mill that is portable. In this direction especial attention is called to Hege's Eureka portable sawmill. Suitable illustrations accompany the data in the pamphlet, which comprises catalogue "L" of the Salem Iron Works of Winston-Salem, N. C. This Southern company has been building sawmills and woodworking machinery for some years, and its product has become well known to discriminating Southern buyers.

Weber Gas Engine Co.

"A never-failing power, thorough excellence of material, workmanship and time-tried principles of construction." With this foreword the Weber Gas Engine Co. of Kansas City, Mo., presents its catalogue No. 21 to present and prospective users of power for industrial purposes of any character. This company builds high-grade heavy-duty power plants, and with permissible pride calls attention to the design, development and introduction of the Weber producer gas engine and suction gas producer. Thousands of horse-power of this equipment are now in successful operation, and many facsimiles of letters from the satisfied owners indicate the perfect service which the machines give. Briefly, yet thoroughly, the machines are described in the catalogue, the description being accompanied by photographic views of much interest. The predominating features are referred to as compact, self-contained design, permitting automatic lubrication, housing of working parts and low cost of maintenance and attendance; vertical design, resulting in extreme compactness, low frictional losses, ease of removing valves and piston; four-cycle, single-acting principle, permitting high speeds with absence of vibration, making the engine particularly adapted to driving electric generators.

Jacobson Gas and Gasoline Engines.

There is a continued and enlarging demand for gas and gasoline engines for stationary and power purposes. This demand is being met by various manufacturers of power machinery, the leading companies including the Jacobson Machine Manufacturing Co. of Warren, Pa. The Jacobson gas and gasoline engines are fully described in the company's Bulletin D, and the explanations are accompanied by illustrations and diagrams so that the superior features of the machines can be readily appreciated. These engines operate on what is known as the four-cycle system, taking an explosion every two revolutions. They embody in general design four features which represent the fundamental principles of correct gas-engine construction: Method of transmitting power and motion to valve-gear shaft accomplished by means of spiral gears; manner in which valves are operated, being held in a vertical position and moved in a vertical direction; method of supporting cylinder, providing for free expansion and for absolute rigidity; bushing system of cylinder providing for expansion of wearing part of cylinder without distortion and providing also for removal of wearing portion of cylinder for purpose of reboring or replacing without disturbing machine on foundation. These features have been worked out in detail in such a way that the machines are extremely durable, reliable and efficient.

FINANCIAL NEWS

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,
Baltimore, Md., November 20.

The Baltimore stock market has been dull during the week. In the trading United Railways common sold at 8% to 9; the trust certificates at 9; the income bonds at 43 to 42%; the funding 5s from 70 to 69; do. scrip, 70; United 4s, 82 to 80; Gas 6s, 101 1/2; Seaboard 4s, 62 1/2; G.-B.-S. Brewing incomes, 14 1/2; do. 1sts, 40.

Mechanics' Bank sold at 26; Maryland Casualty, 57; Farmers and Merchants' Bank, 50.

Other securities were traded in thus: Atlantic Coast Line common, 69 to 70; Northern Central, 81 to 79; Western Maryland Railroad stock, 4 1/2 to 5; Houston Oil common, 4 1/4 to 3 1/2; City &

Suburban 5s, Baltimore, 106 1/2; Georgia Pacific 1sts, 107 1/2; West Virginia Central 6s, 101 1/2 to 101; Atlantic Coast Line 4s, 84 1/2; Western Maryland 4s, 63 to 63 1/2; Georgia & Alabama Consolidated 5s, 98 1/2; Baltimore City Passenger 5s, 90; United States Steel sinking fund 5s, 80%; Charleston & Western Carolina 5s, 99; Georgia, Carolina & Northern 5s, 98 1/2; North Baltimore 5s, 107 1/2; Baltimore City 3 1/2s, 1930, 92; Georgia Southern & Florida 5s, 101 to 100; Richmond & Danville gold 6s, 104; Charlotte, Columbia & Augusta 1sts, 99 1/2; City & Suburban 5s, Washington, 97 1/2 to 97%; Baltimore City 3 1/2s, 1940, 91.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended November 20, 1907.

Railroad Stocks.	Par.	Bld.	Asked.
Atlantic Coast Line.....	100	62	63
Norfolk Railway & Light.....	25	18	
Seaboard Company 2d Pfd.....	100	30	
United Railways & Elec. Co.	50	84	10
Western Maryland.....	50	45	5

Bank Stocks.

Citizens' National Bank.....	10	33	
Farmers & Mer. Nat. Bank.....	40	50	
Maryland National Bank.....	20	17	
Merchants' National Bank.....	100	170	
National Bank of Baltimore.....	100	109 1/2	117
National Mechanics' Bank.....	10	26	
National Union Bank of Md.	100	110	
Third National Bank.....	100	113	120 1/2

Trust, Fidelity and Casualty Stocks.

Fidelity & Deposit.....	50	110	120
Maryland Casualty.....	25	57 1/2	
Mercantile Trust & Deposit....	50	120	

Miscellaneous Stocks.

Ala. Con. Coal & Iron Pfd.	100	74	
Con. Gas, Elec. Lt. & P. Pfd.	100	80	
Consolidation Coal.....	100	85	
G.-B.-S. Brewing Co.	100	4	

Railroad Bonds.

Albany & Northern 5s, 1946.....	93		
Atlantic Coast Line 1st 4s, 1952.....	84 1/2		
Balto. & Harrisburg Ext. 6s, 1938.....	99		
Carolina Central 4s, 1949.....	82 1/2		
Charleston & West. Cen. 6s, 1946.....	99		
Char. Col. & Auga. 1st 5s, 1910.....	99 1/2		
Georgia & Alabama 5s, 1945.....	98		
Georgia, Car. & North. 1st 5s, 1929.....	99		
Georgia Pacific 1st 6s, 1923.....	107 1/2		
Georgia Sou. & Fla. 1st 5s, 1945.....	100		100 1/2
Petersburg, Class B 6s, 1926.....	114		
Piedmont & Cum. 1st 5s, 1911.....	95		
Raleigh & Augusta 1st 6s, 1926.....	111		
Richmond & Danville Gold 6s, 1915.....	102		
Savannah, Fla. & West. 6s.....	115		
Seaboard Air Line 4s, 1950.....	61		
Seaboard Air Line 5s, 10-year, 1911.....	89		
South Bound 5s, 1941.....	96 1/2		
Virginia Midland 3d 6s, 1916.....	110		
Washington Terminal 3 1/2s.....	82		
Western Maryland 4s, 1952.....	62 1/2		
West Va. Cen. 1st 6s, 1911.....	101		101 1/2
Wilmington, Col. & Auga. 6s, 1910.....	102 1/2		
Wilmington & Wel. Gold 5s, 1935.....	104		
Wilmington & Weldon 4s.....	96 1/2		

Street Railway Bonds.

Anacostia & Potomac 5s, 1949.....	96		
Augusta Railway & Elec. 5s, 1940.....	90		
Baltimore City Passenger 5s, 1911.....	98 1/2		
Balto. Spar. Pt. & Chez. 4 1/2s.....	99		
Charleston City Ry. 5s, 1923.....	98 1/2		
City & Suburban 5s (Balto.).....	122		
City & Suburban 5s (Wash.).....	194		
Lake Roland Elevated 5s, 1942.....	107 1/2		
Lexington Ry. 1st 5s, 1949.....	96		
Metropolitan 5s (Wash.).....	106		
Norfolk St. Ry. 5s, 1944.....	99		
North Baltimore 5s, 1942.....	107 1/2		
United Rys. 1st 4s, 1949.....	80		80 1/2
United Rys. Inc. 4s, 1949, non-ass.	41		42 1/2
United Rys. Inc. 4s, 1949, non-ass.	45		52
United Railways Funding 5s.....	52		

Miscellaneous Bonds.

Consolidated Gas 6s, 1910.....	101 1/2		101 1/2
Consolidated Gas 5s, 1939.....	103 1/2		106
Consolidated Gas 4 1/2s.....	91		
G.-B.-S. Brewing 1sts.....	40		
G.-B.-S. Brewing 2d Incomes.....	15		
Mt. Vernon-Woolby's Cot. Duck 5s.....	70		74
United Elec. Lt. & Power 4 1/2s.....	81		

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending November 18.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	88	
Alken Mfg. Co. (S. C.).....	90	
American Spinning Co. (S. C.).....	130	145
Anderdon Cotton Mills (S. C.).....	70	
Airkwright Mills (S. C.).....	118	
Augusta Factory (Ga.).....	80	
Avondale Mills (Ala.).....	120	
Belton Mills (S. C.).....	115	121

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